University News

ONDAY, APRIL 11, 1988 Rs. 1.50

annual convocation of ISM (Left to Right) Shri A. Sarkar, Acting Registrar, Shri A N Haksar, Chairman, ISM Executive Board, Shri D.P. Dhoundial, Director General, Geological Survey of India and Prof. (Dr) D.K. Sinha, Director, Indian School of Mines.

SCHOOL OF CORRESPONDENCE COURSES

ANDHRA UNIVERSITY : WALTAIR

ENTRANCE EXAMINATION NOTIFICATION—JUNE, 1988

ENTRANCE EXAMINATION UNDER MODIFIED SCHEME FOR LIBERALISED ADMISSION INTO B.A./B.Com. COURSES WITHOUT ANY FORMAL ACADEMIC QUALIFICATION.

Applications are invited from the candidates residing in India for Entrance Examination for admission into Ist year B.A./B.Com. Degree courses for the academic year 1988-89 through the School of Correspondence Courses.

No minimum qualification is required to appear for the Entrance Examination, except that candidates should have completed 21 years of age by 1-7-1988. Candidates who pass the Entrance Examination are eligible for admission into Ist year B.A./B.Com. courses in the School of Correspondence Courses only.

Applications will be issued from 4th April, 1988. Duly filled in applications should reach this office on or before **10-5-1988**. Applications received after the due date of 10-5-1988 will be accepted on payment of the penal fee at the following rates :

Upto 12-5-1988 (for first two days)	Rs. 2/-
Upto 20-5-1988 (between third and tenth day)...........	Rs. 10/-
Upto 30-5-1988 (between eleventh and twentieth day) ...	Rs. 50/-

Applications received after 30-5-1988 will not be accepted even with maximum penal fee.

Date of B.A. and B.Com. Entrance Examination is 19-6-1988.

Under Modified Scheme of Entrance Examination, there will be four papers of one hour duration each and the examination will be conducted in two sessions on Sunday, the **19th June, 1988** from 9.00 a.m. to 11.00 a.m. and from 2.00 p.m. to 4.00 p.m. Examination will be conducted in one centre in each district in Andhra Pradesh besides the existing centres in Andhra and Nagarjuna University jurisdiction.

Intending candidates may write to the undersigned by DESIGNATION for application form, syllabus and model question papers by sending Rs. 10/- by demand draft drawn in favour of the Director, School of Correspondence Courses, Andhra University, Waltair alongwith one self-addressed envelope of 9"x6" size (Without affixing postal stamps). The candidates may also remit cash at the cash-counter in the School towards application form. **Postal Orders and Cheques will not be accepted.**

The students of Introductory Course of this School need not pay Rs. 10/- towards the cost of application form, syllabus etc., and also need not send the requisition letter for the Entrance Examination application form. The School will send the necessary application form to the students of Introductory Course. However, the duly filled-in application form should be returned to the School will all the necessary enclosures on or before 10-5-1988.

The prescribed application forms, syllabus and model question papers are also available at our following Study Centres on payment of Rs. 10/- through Demand Draft: 1. Government College, Srikakulam; 2. M.R. College, Vizianagaram; 3. Mrs. A.V.N. College, Visakhapatnam; 4. Govt. College, Rajahmundry; 5. P.R. Govt. College, Kakinada; 6. Sir C.R. Reddy College, Eluru; 7. SRR & CVR Govt. College, Vijayawada and 8. A.C. College, Guntur.

The School has no agents and takes no responsibility for the prospectus issued and promises made for admission by any other institution.

Note : The applicants should clearly mention whether they require Entrance Examination application form either for B.A. or B. Com.

Waltair
Dt. 19-3-1988.

Prof. V. Abraham
DIRECTOR

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Editor :
SUTINDER SINGH

Student Services Programme for Higher Education

Dawoodbhai A. Ghanchi*

The Overview

Higher education in modern India has the conceptual and philosophical legacy of the British system of university education because of historical reasons. The two distinguishing features of the Indian higher education system are the predominantly scholastic contents of the curriculum and the formality of its operations. Whatever the Faculty, be it Arts or Commerce or Science or Engineering or any other, these two features pervade the thinking and the actions of all—the teachers, the administrators, the students and even the community. As a result, it is found that the system has developed many an ailment like :

- The curriculum is information loaded, and is much less related to the contemporary and future needs of society.
- The curriculum is lopsided, and caters to only a limited segment of the student's personality.
- There is very little meaningful participation of the learner in the adventure of learning at any stage whether it be planning, learn-teaching, evaluating or monitoring.
- Teaching, both at the undergraduate level and the postgraduate level, is devoid of excitement, challenge and delight.
- Institutions of higher education, whether a college or a university, have very largely ceased to be organic centres of growth of human resource in its multifaceted forms.

The Diagnosis

There are several reasons that have contributed to these ailments of the system. First, there is an exponential expansion of higher education in the country in the wake of the development of the primary and the secondary stage This has not allowed us to attend to the needs of quality. Secondly, because of historical reasons, the system has remained too static and allergic to change and innovation. Thirdly, we have had to make do with limited resources which have been utilised primarily for the bare survival needs of the system. Finally, and consequently, we have tried to tread the easiest path, namely, the pursuit of the degree sans knowledge, sans expertise, sans sensitivity to social needs, and sans an urge to excel.

The Approach

In spite of so many shortcomings, the Indian system of higher education has managed to survive, thanks to the tremendous resilience it has developed over the years. However, looking to the needs of national development in the years to come, we must adopt a selective approach to the problems of the system. We must attack the most crucial spot, namely, the curriculum because it is the perception of the curriculum that will provide the ethos to reinvigorate the system by mobilising all the resources that go to make the system work in

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**Pro-Vice-Chancellor, North Gujarat University, Patan-384265.*

accordance with our goals. This approach would require us to take care of three things namely :

- Adoption of an appropriate model of higher education;
- Articulation of specific goals of higher education;
- Development of a comprehensive programme of student services as an inevitable camponent of the curriculum.

The Model

The system of higher education in a community may be structured on anyone of the following models, or it may be a combination of several of them.

- *The godown model* which serves the purpose of storing the educands to keep them as they are at the best or to save them from the possible damage caused by ignorance or moral corruption.
- *The bank model* which is slightly better than the godown model inasmuch as it does not merely store but tries to make it earn an interest when invested.
- *The factory model* which processes the material in order to refine it or give it a new shape, and market it, mostly at a profit.
- *The human resource development model* which involves the educand in the adventure of life-making, of changing the self through volition, and of constantly moving towards higher excellence.

The Indian system of higher education has, for long, remained wedded to the first three models entailing a terrible cost in the form of human quality and worth. *It needs to be given a new direction* by changing into a life-generating model based on participation and involvement by all. The document of the new Education Policy of India emphasises the urgent need of developing the human resource development model for the system of our higher education. The advocacy of autonomous institutions is a pointer in that direction.

The Goals

The system of higher education obtaining in a community may have at its roots a hierarchy of goals like the following :

- *Survival goals* which seek to preserve the existing modes of life, of thinking, of production and of social interaction without undertaking the risks of change, of redefinition and of innovation.
- *Development goals* which seek to take a step forward from the mere preservational needs. They aim at developing selected potentials of the educand, maybe mental, emotional and so on.
- *Enrichmental goals* which combine development with experimentation, with innovation, with excellence, with creativity. In short, it aims at maximising the flowering of the human potential that has always been the dream of the humankind.

The present scenario of higher education in India is characterised by the existence of a large number of nonviable institutions that barely scrape through and have, therefore, a very limited scheme of educational goals to offer. This is why the document on the New Education policy rightly emphasises the need of strengthening the weak institutions and making them instruments of a drive for educational excellence. It's going to be an ongoing movement for realising enrichmental goals in the years to come.

The Student Services Programme

The modern concept of curriculum pertains to a comprehensive offering of activities and experience of a range ministering to the variety of needs of the young persons pursuing higher education. The scholastic component provides, not merely bits of information of a relevant discipline, but challenges the entire cognitive domain of the learner's personality. The proposed scheme of restructuring the undergraduate curriculum into a three tier scheme is supposed to challenge the mental faculties of the young learner at the college.

The non-scholastic domain of the curriculum, much of which is usually the hidden part of the scheme, is as wide as life itself. It needs to be spelt out, and an appropriate strategy of operation to be laid out. This part of the curriculum has hitherto remained completely neglected. If at all it has been given a place in the scheme of work, it has been either spasmodic or ad hoc, and even in either case much of its educational significance has been lost sight of. The NCC, the NSS, the NSO, the extracurricular activities and the umpteen number of activities that are found in the calendars of institutions of higher education have long been ritualistic in performance and anaemic in their impact on the psyche of the student world.

Fortunately, the document on the New Education Policy has made a positive case for developing an integrated dish of learning experiences for the students at the institutions of higher education in India It has been left to the imagination of the planners, the teachers, and the administrators of education to design a comprehensive programme of student services as a part of the curriculum so that the student at the college and university

- develops cognitive abilities to his full capacity,
- learns to take decisions about issues of life,
- communicates effectively his ideas, views and commitments.
- relates himself meaningfully with other members of specific social groups, and evinces social sensitivity to the problems of life in the contemporary world
- possesses a scale of values that go to distinguish him as a responsible member of a civilized society wedded to human dignity and worth,
- exhibits a fine sense of aesthetics and preferences in the midst of a world flooded by cheap commercial stuff
- strives to constantly excel in personal as well as professional pursuits, and
- specialises in more than one productive skill, cognitive or manual or technological and tries continually to update his equipment in order to cope with emerging challenges in the world of knowledge and work

Viewed in this light, the corpus of student services to be offered by an institution of higher learning must comprise a large variety and range of activities and programmes

The Corpus

The student services programme can be conceived of as a ten pronged scheme of various activities and experiences to be offered to all the students of a college or of a university as a matter of right for every student throughout his stay at the respective institution

1 **Plant services**
2 **Basic needs services**
3 **Housing services**
4 **Personality development services**
5 **Social stitching services**
6 **Study support services**
7 **Learning facilitating services**
8 **Career development services**
9 **Ameliorating services**
10 **Recreation services**

Each of the above services consists of a number of specific activities as enumerated hereunder

1 *Plant Services*

An institution of higher education meant for the youth of the country must provide for essential plant facilities like classrooms of adequate size with sufficient furniture and learning equipment, special rooms like laboratories of all types (e g a maths lab or a computer room or an audio visual studio, etc) a library a workshop, study halls, seminar rooms, cubicles, etc The plant services must take care of the proper maintenance of the facilities, their cleanliness, aesthetics and upkeep They must conform to the highest norms required to build up a wholesome climate in the institution to promote a healthy growth of the physique, of the mind and of the spirit of the youth of the country. In fact, it must be our endeavour to develop alternative models of plant facilities for our institutions of higher education

2. *Basic Needs Services*

These services are intended to serve the basic survival needs of the age group studying in our colleges and universities They must take special care of the verious vulnerable groups like girls, backward class students tribals and economically deprived sections of society The services must comprise the following

- Drinking water facilities with an assured supply of adequate, clean, fresh potable water

- Food services which should include canteens run efficiently with due provision of quality food at reasonable price served in the most hygienic way, hostel mess facility under the supervision of the students; and provision of subsidy to the needy students on the price of the food supplied

- Toilet facilities in adequate number and of a high standard of cleanliness Due care must be taken for the needs of women students

- Relaxation facilities which should include parks, gardens, fountains, outdoor seating places, and centres for rest and ease.

- Health services which must include a first aid centre or centres depending upon the number of students and buildings, preventive, curative and promotional facilities for health, referral services, medical checkup on a regular basis, subsidised medicare for the needy; institution of a health centre with facilities for infirmaries and temporary hospitalisation; information services on age-specific diseases, drug deaddiction and rehabilitation; and programmes of physical fitness, sports and health education.

- Provision of articles of daily needs like snacks, milk, fruits etc. For this vending machines can be installed and cooperative stores can be started. Students must be protected from exploitation through vigilance committees formed of faculty and students.

3. *Housing Services*

Every institution of higher education must have a hostel or a hall or halls of residence as an essential condition of recognition or affiliation. There must be a separate residential facility for girls. In addition to its own facility on the campus, the institution must arrange with voluntary agencies as well as individuals for residential facilities at reasonable rent. Such facility must be approved by the institution and periodically checked for cleanliness and healthful surroundings.

The residences must have adequate furniture and provision for protection against climatic rigours. There must also be a provision of personnel services including rectors, wardens, servants and so on for due care of the residential needs of the students.

There should be reception and guidance service in the hostel for the new students. There should also be a regular programme of orientation to facilitate adjustment to hostel life and to eliminate the possibilities of evil practice of ragging by seniors. There should be programmes like homestay, social celebrations, cultural programmes and parents' days to make hostel life livable and relevant to academic needs.

The students' health problems in hostels need special attention. There should be due provision for the treatment of the sick. Emergencies and accidents must be specially taken care of. A close liaison be established among hostel inmates, their parents, teachers, administrators and management bodies to diffuse crises and solve problems.

4. *Personality Development Services*

The normal scholastic curriculum of higher education does not cater to the multifarious needs of the complex personality of the youth as it is limited to the narrow domain of information gathering to pass the public examination. Hence, the need to provide services to enrich the other domains of the personality, namely the affective domain, the aesthetic domain, the social domain, the creative domain and so on. This would need careful nurturing by a sympathetic agent, maybe the teacher, the counsellor, the proctor or even a senior student. The activities would include :

- Training in intellectual skills like speech skill, debate skill, declamation skill, oratory and rhetorics.
- Training in social skills of friendship, leadership, group formation, conflict resolution, negotiation, resistance techniques etc.
- Training in performing arts like drama, dance, miming, role playing etc.
- Training in arts of drawing, painting, sculpturing etc.
- Training in creative writing, journalism, playwriting etc.
- Training in the use of the media, specially the radio, the TV, the film, and the press.
- Training in aesthetics with reference to hobbies, tastes, preferences and habits of food, drink and entertainment.

In fact, this is a vital dimension of the man-making enterprise called education which would require an ongoing, deliberate plan of action in the institutions of higher education in the country.

5. *Social Stitching Services*

These services are intended to make education society-oriented so that it turns out young men and women who have sensitivity to social needs. The society owns the educational institution and tries to interact with it meaningfully so as to enhance its value by increasing its relevance and utility through a deliberate participation in the process of regeneration and change in response to the newer needs of the age. The services that must be rendered to the students are :

- Parent liaison with the institution through various means like newsletters, reports, meetings, open house, advisory cells etc.
- Community liaison through the programmes of celebrations, social service, camps, extension lectures, film shows, drives for specific purposes etc.

- Training to the students in the skills of social service through workshops, field studies, placement in social service projects, etc.
- Involvement of student representatives in social service bodies by being nominated on them say on youth clubs, womens' clubs, etc.
- Sensitisation programmes on specific issues like social reforms, superstitions, evil customs like dowry, sati, child marriage, etc.

In short, it is the broad concept of socialisation of the youth that is sought to be put into practice through the social stitching services. It is through these services that the young men and women will discover themselves and acquire confidence in themselves to influence the society they live in.

6. *Study Support Services*

The student needs materials like books, journals, stationery, etc., to study efficiently These should be available at the right moment and that too at a reasonable price. If need be, the price should be subsidised. Materials' banks should be established in every institution and should be well stocked. Only the right type of material should be used by them, and for this they should be guided properly. Materials like notes, guides, probable questions, etc. should be discouraged. The University Texbook Boards, the National Book Trust and similar agencies should be approached for quality books and ancillary materials for study. The state civil supplies corporations can be approached for the supply of stationery and other support material at controlled prices.

7. *Learning Facilitating Services*

Students joining institutions of higher education bring with them a hangover of dependent study habits and work style from their school days, whereas higher education demands a different set of learning styles for which they must be systematically trained. The following types of services should be provided for the purpose :

- Efficient study habits including attending lectures, taking notes, participating in discussions etc., should be formed through training
- Library skills be similarly developed and training be imparted in using various library facilities and resources of learning.
- Training for self-study skills should be provided so that participatory learning techniques are maximally taken advantage of.
- Use of Educational technology like computers, VCR, microfilms etc , should be bought for use by the students in their daily learning chores.
- Examination-taking skills should be developed for different types of tests and techniques for both internal and external examinations.
- Special education aid for remedial and accelerated learning be provided to the students as per their needs.
- Guidance-cum-counselling centres should be established for helping students in all their problems pertaining to their study; maybe for the selection of subjects, for the choice of electives,

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for solving learning problems, and for meeting the crises generated by failures.

- Night study centres and reading booths should be established for the use of those students who have inadequate facility for study at home.
- Distance learning advisement should be provided along with regular study in order that students can take advantage of alternative modes of learning.
- A system of home-room periods be instituted as a regular weekly feature of the schedule to freely discuss the learning experiences of the students in the college/university itself, and a positive, encouraging attitude be developed among the students in cooperation with their peer-learners.

Thus, the present unipolar approach of 'take it or leave it' shall have to give way to a cooperative and interactive one to make learning an exciting pursuit for our students at institutions of higher education.

8. *Career Development Services*

In order to make higher education meaningful to the learner, and to relate education to the world of work, students must be provided with a variety of career development services on the campus itself as well as in the community. These should include :

- Running guidance and counselling centres with equipment for psychological testing, latest information about jobs and careers, literature related to various openings and records of longitudinal studies on the impact of guidance on students.
- Training programmes for entering the world of work, like reading advertisements, getting application forms, filling in the said forms, procuring testimonials, preparing for interviews, taking a competitive examination, joining a job, following office protocols etc.
- Placement services whereby the institution establishes contacts with employers-individuals as well as corporations and arranges for timebound placement.
- Training for entrepreneurship so as to launch one's own business or industry, and for that purpose marshal resources and use skills to succeed in the enterprise.
- Training facilities on the campus as well as in establishments off the campus in various gainful occupations and skills. For this purpose present courses may have to be restructured and new ones may have to be devised, workplaces and workshops may have to be established. The whole gamut of voc ational education will have to be explored for the purpose.

9. *Ameliorating Services*

With the expansion of higher education in India, we find a rush of first generation learners who are economically, socially and culturally deprived, and hence, are handicapped in taking advantage of the facility of higher education. To give them a head-start, ameliorating services should be offered not as a matter of charity but as a compensatory component of formal education. This would consist of the following :

- Free studentships on a liberal scale
- Merit as well as means scholarships.
- Loans and subsidies for specific purposes
- Offers of paid work of a large variety—teaching assistantship, library aid, manual work, etc
- Recommendations for external help and supplementary income.
- Student-adoption schemes by Faculty and citizens.
- Guidance and help in emergencies like drought, famine, death in the family, economic distress, etc.

It is the warmth and sympathy in the approach and dealings with the students that will ultimately lead to the amelioration of hardship and catastrophe.

10. *Recreation Services*

Learning sans delight is sterile and transient, for learning is a dynamic, creative and exciting human adventure wherein the living interact with the living Hence, the due place of recreational services in the scheme of education, whatever the stage might be. The educands at the higher education stage being effervescent youth of the community, there is a pressing need of providing deliberately a rich net work of recreational services The following types should be offered :

- Establishment of different centres of recreation, creative and healthy like, an NRS centre, a hobby centre, an assembly hall, a theatre, a music hall, a do-it-yourself centre etc., all equipped suitably,
- Training for hobbies, performing arts, graphic arts and production crafts, both manual and mechanical,

- Training in creative literature, art appreciation, production of films, both movie and video, folk arts, etc.,
- Formation of itinerant artists' groups and their exchange with similar groups in other institutions,
- Organisation of regular recreational programmes, outdoor and indoor, of a large variety and encouragement for wide participation by students, faculty and the community, and
- Establishment of liaison with agencies like the Lalit Kala Akademi, Sahitya Akademi, and Sangeet and Natak Akademi etc., for exchange, of artists, organisation of training programmes, holding of demonstrations etc., and getting their financial and technical help for building up counterpart programmes in the institutions of higher education.

The corpus of services is, thus, vast and varied. Our students have been virtually starved of these essential educational inputs so far, and have been fed upon a timid and anaemic examination-oriented programme. Now is the time to redeem ourselves by providing an exciting avenue in the form of student services.

The Organisational Framework

The student services programme shall need a well-knit organisational framework at the university and every affiliated or constituent college consisting of the following personnel :

- A dean of students.
- An assistant dean of students at the university.
- A student counsellor assisted by a required number of assistant counsellors for specific roles like psychological testing
- Student advisors

The said personnel shall be duly qualified and shall have personality traits and expertise to instil faith, in the students and win their confidence. They shall have a suitable cadre position and shall be paid as per their assignments. They shall be provided with the services of supporting staff, technical and menial, and shall have adequate resources with necessary powers to utilise them.

The Operational Strategy

The student services programme is conceived as a part and parcel of the educational programmes of the university and the college. Hence, to operate it effectively, the following shall be needed :

- A provision of statutory budget with assured source of income.
- An in-built provision of evaluation, feedback and monitoring by involving in it the administration, faculty, students and community.
- An ongoing training programme for all the participants in the services, namely, the faculty, the students, the administrators and the support personnel.

Conclusion

The concept of comprehensive student services programmes provide the hitherto missing component of the Indian system of higher education inherited from a colonial historical context. If the institutions of higher education in India are to pay the role of nurseries of future leadership—intellectual, social, political, economic, industrial, and cultural—both at national and global levels, higher education shall have to consist of a comprehensive curriculum supported by myriad student services in order to be an instrument of transformation and development. The time for that is here and now. ☐

Reference

1. Aikara, Jacob A Ed. *Innovations in higher education in India*. Pune, Dastan Ramchandra, 1984.
2. Bachman, J.R. Kahn, T. Davidson and L. Johnston, *Youth in transition*. Ann Arbor : Institute of social research, Vol. 1 1967.
3. Beer, M. *The techniques of organisational development*. Boston, Harvard University. 1972.
4. Bose J. *Educational techniques in community development*. Bombay, Orient Longmans, 1965.
5. Dean, D. "Alienation : Its meaning and measurement". *American Sociological Review*, Vol. 26, 1961. pp. 753-758.
6. Derr, Richard L. "Education versus developing educated persons", *Curriculum Enquiry*, 14 : all 1984, pp. 301-309.
7. Fowler, Gerard A., "The legal relationship between American students and the college—An historical perspective and renewal of a proposal", *Journal of Law and Education*, Vol. 13, No. 3, July 1934.
8. Higgins, John W. and penn, J. Roger. "Student advising needs : An institutional and student perspective", *Community College Review*, Vol. 11 : Winter 1983. pp. 10-13.
9. Japan, Ministry of Education, Science and Culture. *The systematic planning and administration of higher education, in Japan after 1986*. Tokyo, 1986.
10. Kamat, A.R. *Education and social change in India*. Pune, Indian Institute of education, 1985.
11. Rosenberg, M. *Society and the adolescent self-image* Princeton, Princeton University Press, 1985.

UNIVERSITIES AND LAW COURTS

T. K. Tope*

I

Duty of the Universities

The Supreme Court laid down that it is the duty of the University to see that no college affiliated to it shall give admission to students more than the prescribed number. Waking up at the last moment and then relying upon legal provisions causes great hardships to students.

(Narendra Bahadur Singh v. Gorakhpur University
A I R 1987, S.C. 1154)

Note : Many Universities fix a last date for admission to various courses. This is very essential. Similarly, it is also essential to fix a date early in the first term when colleges must convey to the Universities the number of students on rolls for various courses. It would be necessary to have flying squads to visit colleges and to ensure that no college has admitted more than authorised students, Guilty colleges must be penalised. Adequate provision in the University Acts must be made. Government must not interfere when Universities take a decision on this point.

II

Natural Justice

Members of the disciplinary committee appointed to enquire in the conduct of a person, should not participate in the final decision to be taken in that case.

(Institute of Chartered Accountants v. Loka Ratna
(1986) 4, S.C.C. 537).

III

Selection of Books and Bias

A committee was set up to select books for educational institution. Some of the members of the committee were themselves authors whose books were to be considered.

The Supreme Court laid down that in such cases possibility of bias cannot be excluded.

(Mohapatra and Co. v. State of Orissa
(1984) 4 S.C.C. 103)

Note : All educational institutions should have a rule that books of the members of Selection Committee for books. will not be prescribed. The only exception should be in case of persons who are required to be members of such committee ex-officio. In such a case the doctrine of necessity is applicacle.

IV

Law Course

Bombay High Court laid down that the rule of the Bar Council of India, which prohibited law students from pursuing other courses of study during the period of the study of law, was bad in law. In this case the person pursued his study for Chartered Accountants examinations while studying law. The Bar Council of Maharashtra refused to enrol him as an Advocate. The Court issued a writ of mandamus and directed the Council to enrol him as an Advocate.

(Peray Jal Pardiwalla v. Bar Council of India
A.I.R. 1987, Bom. 283)

Note : Many universities have a rule prohibiting a student to pursue two postgraduate courses simultaneously. One doubts whether in view of this ruling such a rule would be valid. LL.B. course is not a postgraduate course according to the Supreme Court. Hence, it appears that a rule which prohibits a law student from pursuing M.A., M Com. or M.Sc courses would be bad.

V

Admissions to Medical Faculty

The Supreme Court laid down following guidelines for admissions to medical faculty.

Former Member, Law Commission and Vice-Chancellor, University of Bombay (1971-77).

1 Present structure of postgraduate medical courses in existence in various States are allowed to continue upto 1992 From 1993 there will be one pattern of postgradate courses namely a three year course without any housemanship

2 All universities and institutions are directed to take steps to bring about such amendments in their courses as may be necessary to conform to first directive

3 The court pointed out that it did not intend to make any provision in regard to super specialities and other higher degrees

4 Selection examination shall be conducted by the All India Institute of Medical Sciences, New Delhi The announcement for holding of such selection examination shall be made on October 1 of every year Examinations shall be held on second Sunday of January The results shall be announced within four weeks from holding the examination Admission will commence two weeks after the declaration of results The courses of study shall commence in every institution providing for such study throughout the country from May 2

(Dinesh Kumar v Motilal Nehru Medical College
(1987) 4 S C C 459)

It is recommended that the entire judgement should be studied by Deans of Medical Colleges

Medical Examination

Passing M B B S examination at the first attempt is important in medical education An interesting case was decided by the Supreme Court A candidate was unable to attend classes and clinics and submit examination form as he was seriously ill and was hospitalised during the first term of III M B B S He passed M B B S examination with the next batch The Supreme Court decided that he cannot be said to have passed the examination in second attempt His admission to M.S course must be determined as if passed the M B.B.S examination at the first attempt

(Abhijit v Dean, Govt. Medical College, Aurangabad,
AIR 1987, S C. 1362)

VI

Elections

Elections to various university bodies are held according to the system of single transferable vote At such elections a certain quota of votes is also fixed for declaring a candidate successful But a situation might arise when after eliminating all other candidates, only one candidate remains in the run but he does not secure the necessary quota of votes Even then such a dandidate must be declared elected The Kerala High Court was interpreting relevant sections of the Kerala University Act and the Statutes made thereunder

(**M Gopi v A Shamsuddin**, AIR 1988, Kerala, p. 22)

Which is the proper forum for challenging election to the various bodies in universities Such elections are held under the Statutes passed for the purpose Hence if any election is to be challenged, it must be challenged firstly according to the provisions of the University Act and the Statutes made under the Act The Supreme Court laid down that Section 58 of the Gujarat University Act which provides for reference of the dispute relating to election to any Authority of the University, to the State Government is mandatory. Hence, an aggrieved person must first approach the State Government and cannot move the High Court directly under Art 226

(Gujarat University v Noha Rajguru,
AIR 1987 SC 66)

VII

Minority Educational Institutions and Regulatory Measures

Frank Anthony School Employees' Association Case (1987) 4 Supreme Court cases p. 707 or AIR 1987 SC 311) though is a case with respect to a school and therefore not with respect to higher education, the principle of law laid down in that case is likely to be applied to institutions of higher education Moreover, it lays down a very important principle regarding the conditions of service of teachers in minority educational institutions. The Court laid down

Conditions of service pertaining to minimum qualifications of teachers, their salaries, allowances and other conditions of service which ensure security contentment and decent living standards to teachers and which will consequently enable them to render better service to the institution and pupils, cannot be said to be violative of the fundamental rights guaranteed by Art 30 (1) The management of a minority educational institution cannot be permitted under the guise of the fundamental rights guaranteed by Art 30(1) to oppress or exploit its employees any more than any other private employee. (p. 328)

Another important principle laid down in this case is regarding the right to approach a Tribunal for redress of grievances arising out of disciplinary action resulting in removal, dismissal or reduction in rank.

The Court laid down :

Section 8(3) provides for an appeal to the Tribunal constituted under Section 11, that is, a Tribunal consisting of a person who has held office as a District Judge or any equivalent judicial office. The appeal is not to any departmental official but to a tribunal manned by a person who has held that office as a District Judge and who is required to exercise his powers not arbitrarily but in the same manner as a Court of appeal under the Code of Civil Procedure. The right of appeal itself is confined to a limited classes of cases, namely, those of dismissal, removal or reduction in rank, and not to every dispute between an employee and the management. This limited right of appeal, the character of the authority constituted to hear the appeal and the manner in which the appellate power is required to be exercised make the provision of an appeal perfectly reasonable in our view. (p. 329)

It may be noted that the school in this case was a private unaided minority school. If teachers in such a school have the right to approach a Tribunal for redress of their grievances arising out of the action of the management resulting either in removal, reduction or dismissal, teachers in all educational institutions will have this right. **Thus, teachers in minority educational institutions whether in the secondary schools or in institutions of higher education have a right to approach a Tribunal in case the penalty is removal, reduction in rank or dismissal from service.**

As a corollary to the above judgement, it is submitted that the regulations regarding the age of superannuation of teachers in minority institutions are likely to be covered by the expression 'conditions of service'. Hence if the age of retirement laid down by the University is 60 (sixty) it would be applicable to teachers in minority institutions also. It would be illegal for the management of a minority institution to continue in service a teacher or even the head of the institution beyond the age of superannuation laid down in the regulations of the University.

Another important judgement relating to the minority educational institutions and the application of other laws of regulatory measure is **'Christian Medical College Hospital Union v. Christian Medical College Vellore Association** (AIR 1988, SC p. 37). The Supreme Court laid down that the provisions of the Industrial Disputes Act (Act No. 14 of 1947) are applicable to minority institutions. In this case, three employees of the Hospital were dismissed by the Management. Hence, the State Government made a reference to the Labour Court. This reference to the Labour Court was challenged by the Association before the Madras High Court which decided in favour of the Association. Hence, the Union appealed to the Supreme Court. The Court laid down that the Industrial Disputes Act is applicable to the Minority Institutions. The Court referred to the International Covenant on Economic, Social and Cultural Rights 1966 and to Arts 41, 42 and 43 of the Constitution of India. The Court also referred to some decisions of the American Supreme Court.

Note : It may be noted that the Supreme Court of India in Frank Anthony Public School's case (AIR 1987, SC 311) has adopted the correct approach in protecting the interests of the employees in Minority Educational Institutions In this case, it laid down that the provisions of Section 9A, 10, 11A, 12 and 33 of the Industrial Disputes Act are applicable to minority institutions.

A Problem—This is indeed a correct judgement. However, it has to be noted that Managements of educational institutions (both of majority and the minority) find themselves in a dilemma. Practically all University Acts provide for a Tribunal for deciding the disputes between the management and its employees. As the non-teaching staff of the educational institutions is in law 'Industrial Worker' Vs. (See, Bangalore Water Supply and Sewage Board vs. A. Rajappa (1978)2 SCC 213), it has a right to move the Labour Court. It also has the right to approach the Tribunal. constituted under the University Act. In many cases the non-teaching employees approach simultaneously both i.e. the Labour Court and the University Tribunal This creates an embarassing situation for the Management. Hence, it is suggested that either the U.G.C. or the Association of Indian Universities. should take this issue with the Law Ministry, Government of India Following two alternative remedies are suggested:

(1) Jurisdiction of the Tribunals constituted under the University Acts should be restricted to the case of members of the Teaching Staff only. The non-teaching staff should be governed by the provisions of the

Industrial Disputes Act This remedy would require amendments to the University Acts

(2) Tribunals under the University Acts should cover cases both of the teaching and non teaching staff This is possible only if Parliament amends the Industrial Disputes Act and makes a specific mention that the provisions of the Industrial Disputes Act would not be applicable to the employees in any educational institution provided that there exists alternate machinery for the pur pose

Admission to Courses

The Punjab and Haryana High Court laid down that Minority Institutions, not receiving any aid from the Government are not bound by the policy and procedure laid down by an outside authority like the Director of Technical and Industrial Education in the matter of admission to courses (Ashu Gupta vs State of Punjab, AIR 1987 P & H p 227) It is submitted that this is a correct judgement For, in this case the Institution is not receiving any aid from any outside authority and the decision is only on the narrow question of admission to courses

Guidelines for Determining Religious or and Linguistic Minority

The Supreme Court laid down following guidelines to determine religious and or linguistic minorities

(1) A linguistic minority for the purpose of Art 30(1) is one which at least must have a separate spoken language It is not necessary that the language should have at least a distinct script for those who speak it

(2) Religious or linguistic minorities are to be determined only in relation to the particular legislation which is sought to be impunged Thus if it is the State legislation, the minorities are to be determined in relation to the population of the State

(*D A V College Jalandhar vs State of Punjab* AIR 1971, SC 1737)

In other case, the Supreme Court laid down

(1) The Arya Samajists who are a part of the Hindu Community in Punjab are a religious minority having a distinct script and are entitled to the guarantees under Arts 29 & 30

(2) A University cannot impose on such minorities a medium of instruction and script not their own

(3) No linguistic minority can claim that the University shall conduct its examinations in the language or script which the institution has the right to adopt

(*D A V College Bhatinda vs State of Punjab*, AIR 1971, SC 1731).

Note If linguistic minorities have a right to conserve their language and script and establish and administer educational institutions of their choice, universities in metropolitan cities will find it extremely difficult to prescribe media of instruction and examination This problem assumes greater importance as a result of formation of linguistic states Hence P Jaganmohan Reddy, J in Bhatinda College case suggested following solution

' When the country has been reorganised and formed into linguistic states it may be a natural outcome of that policy to allow colleges established by linguistic minorities giving instructions in the medium of language adopted by Universities in other States to affiliate to them No inconvenience or difficulties, administrative or financial, can justify the infringement of their guaranteed rights '

In the light of the above observation, it is suggested that Parliament may pass a law authorising say a university in Tamil Nadu to affiliate to itself colleges imparting instruction in Tamil language and situated in any other part of India The Association of Indian Universities may take up this matter with the Ministry of Human Resource Development

It is further laid down that it is not for the universities to decide whether a particular institution is a minority institution or not

Following are the leading cases with respect to minority educational institutions

1 In re Kerala Education Bill 1957 All India Reporter S C 956
2 Ahmedabad St Xavier College Society vs State of Gujarat (1974) 1 Supreme Court cases p 717
3 All Saints High School vs Government of Andhra Pradesh (1980) 2 SCC 478, AIR 1980, SC 1042
4 Frank Anthony Public School case, AIR 1987, SC 311
5 Christian Medical College Hospital Union cases, AIR 1988, SC, p 37 ☐

Convocation

Inter-disciplinary Approach

Dr. D.P. Dhaundial, Director General, Geological Survey of India, delivered the Convocation Address at the Tenth Annual Convocation of the Indian School of Mines, Dhanbad. Advocating an inter-disciplinary approach to the development of earth sciences, mineral sciences, human resources and related application and technology areas, Dr. Dhaundial observed, "It may be worthwhile to strengthen the system or to foster a culture of working togethar supplementing each other's efforts to a common objective with clear identification of roles of different disciplines or sub-disciplines in various sectors from the point of view of efficiency, better results and above all, for creating new challenging job avenues for the available trained manpower". Excerpts.

The classical stages of earth sciences and particularly geoscience in relation to continental studies, has transgressed into truely global domains in which land, ocean and atmosphere have to be viewed ensemble, be it for fundamental or resource, environmental studies or for the origin of life. Space missions and practical knowledge of planetory compositions, their morphology and environments progressively bring in the comparative and contrasting features with respect to the mother earth, its matetrials, elements, isotopes, crustal behaviour, cosmic phenomena, etc. Impacts of the increasing knowledge of extraterrestrial bodies and thoughts germane to those bodies, for example on the origin of life on earth on one hand and concentration of some resources on the other hand are influencing the concepts of the genesis and behaviour of the earth's crust. Satellite imageries provide, in some cases, better overviews, and perceptions of the land surface than one could even imagine on the basis of laborious, time consuming ground mapping. Digital enhancement of imageries has opened a new field to choose the data parameters most suited for specific geoscientific studies, resource identification, exploitation, monitoring, environmental studies and so on.

The revelations of ocean floor geology, resultant to extensive geophysical work and deep sea drilling, has rather suddenly transformed the understanding of the global tectonics in time and space. Notwithstanding the gaps and mismatches in some spheres and healthy criticism from some quarters, the theory of plate tectonics has provided a uniformitarian global mechanism explaining at least through 200-300 million years, the origin, distribution, redistribution, destruction of continents, micro-continents, mountains, volcanism, oceans, and also to better understanding of the changing patterns of the seismicity, gravity, magnetism in space and time. The theory has also created significant impacts on intra-crustal, crust-mantle studies and on ideas about genesis, distribution and concentration of resources. Ore genetic processes of certain kinds are within broad premises of prediction in respect of specific locations, belts and tectonic setting. Likewise, views have also been expressed regarding large inorganic gas resources within the crystalline rocks

Isotopic studies are now a common means of investigation highly sophisticated laboratories in as much as such studies provide reliable evidences to decipher the time, chemical and physical milieu of the crystallisation, migration, contamination, cooling, reheating and other processes operating on the crustal or infra-crustal constituents including the concentration of the some mineral resources. The knowledge of chemistry, physics and micro-biology rather than lone dependence on conventional palaeontological techniques is a must for new thoughts on organic evolution and origin of primitive life.

In the field of research and exploration, most of these modern trends are being integrated in the conventional systems of airborne, on-land, off-shore surveys and laboratory inputs in Geological Survey of India (GSI) and other institutions. Computer culture in data processing and modelling is also fast gaining ground.

Engineering inputs in the mineral based sector has assumed frontline position owing to technological advancements. Mining engineers are no more confined to cut and dry formulae but are involved in hazardous job of mining both at the surface and at depth. Extraction of maximum resources from the oil fields on-land and off-shore is in itself a highly specialised engineering venture. Easily accessible resources are fast depleting and the demand has to be met from the deeper levels or from remote and from ground confronted with problems. In order to ensure safety in mines, to surmount geotechnical problems, to utilise changing grades of ore and to meet day to day exploration problems, and also to ensure energy conservation, efficiency of machines and the socio-economic need, etc. mine planning and operations have become really a complex job requiring multi-disciplinary inputs. We have to choose between the concepts of large scale mining with full mechanisation covering over the entire range of gigantic problems on one hand and the concepts of a number of small scale mining centres with semi-mechanised systems dovetailed with labour intensive system on the other hand, after due weightage given for situations in regard to terrain, ore parameters, infrastructure, socio-economic and industrial conditions. Choice of the package of technology befitted with adequate scientific guidelines should be harmonising with the industrial needs, time schedules, investments and returns, production parameters and life of mine as also with the environmental necessities.

The ore beneficiation technology is becoming increasingly important and vital. The application of beneficiation technology has to be kept in view from the initial stages of the identification of gradewise delineation of mineral occurrences to the final stage of pilot production With low grade to sub-marginal resources and complex ores in abundance around fast depletion of the suitably located, rich deposits in a highly industrialised system is inevitable. Availability of mineral resources of the deep sea bed appears to be a far cry as yet. The non-renewable natural mineral endowment occurring in the form of low grades in any segment of the crust the world over, would therefore one day or the other attract exploitation by the highly industrialised and technology dependent society. Such needs would be more in case of developing countries like ours, where the low grade ores occur as a rule. As in the case of deep sea bed resources, this low grade avenue of large on-land resources are dependent on the technological developments in the field of ore beneficiation and extraction. The need for new materials, fundamental research on elemental abundances and concentrations, and extraction technology are in certain spheres inter-related activities. Separation and extractive metallurgy using high temperatures, hydrometallurgy, laser technology, etc. are quite in vogue and fast taking over the conventional systems particularly in respect of high quality materials, generating the demand of certain elements, minerals in low volume but of vital importance.

The point which perhaps is lost sight of, in such a complex and advanced earth science and technology developing systems is in regard to the identification of points or nodes at which one or two or more disciplines can be usefully intertwined in research exploration and industry It may be worthwhile to strengthen the system or to foster a culture of working together supplementing each other's effort to a common objective with clear identification of roles of different disciplines or sub-disciplines in various sectors from the point of view of efficiency, better results and above all, for creating new challenging job avenues for the available trained manpower. The institutions and universities would perhsps be equally interested in this aspect as the quality and quantity of the products from the teaching Institutions will have to be shaped accordingly.

By virtue of the very characteristics of earth sciences and allied engineering, the trained personnel have to have a sound three dimensional approach engrained in the thinking process, coupled with strong observational faculty and predictive approach. On the other hand, more often than not, there is dominance of qualitative and empirical trends in the conclusions because of the inherent nature depending more on the concepts encompassing large number of variables. The earth's crust which reflects a cumulative history of various episodes of vertical and planer cycles since 3.8 or possibly 4.6 billion years, is bound to present large number of variables in all dimensions in relatively short time and space intervals.

In the modern developments and researches, diverse applications of physics, mathematics and chemistry, have been profusely used in geosciences to arrive at homogenised models so as to select the critical variables for analysis, synthesis and for ultimate quantitative conclusions in terms of the materials and processes. One factor most important in the growth of modern earth science in its totality, is a direct relationship of the laboratory data, however, minute as they may be, with the bulk of materials in the field and with the genetic or concentration in the processes. In other words, there should be greater and greater accent on marrying the micro and macro data for better scientific results. Such interlinking of data is vital in the concept of modelling—the catch word of the day.

Thus the interplay of earth

sciences with basic sciences and the extensive use of modern interdisciplinary techniques are inevitable for refined and useful scientific and quantifiable predictive approach. In the years to come such trends are also likely to be applicable to environmental appreciation. It also stands to reason that in such modern developmental trends in earth sciences and technology, any concept or model needs constant review in multidisciplinary sense both at academic and professional levels. For such an approach, human resource needs have also to be properly evaluated and curriculum evolved in its totality and in segments, must serve such multidisciplinary purposes, shaping a young mind so as to be quickly useful to the demands of the users in various sectors at the national level.

The current and future needs of the earth science development, in the national perspective are well known in terms of VII Plan. The availability of correct and modern data bases on varied parameters concerning the surface of the earth's crust and also for deeper down to at least a few kilometers for mineral, oil and gas resources, stresses and strains pattern in the rocks, data base on the landscape, atmosphere and so on, both on-land and off-shore have to be ensured. The faster such modern computerised data bases are built up, the precise and quicker could be the planning process and subsequent action implementation and also the identification of the blind alleys or grey areas in mineral development, technology, research and related training.

Organisations both in public and private sectors concerned with mineral exploration, exploitation and geoscience and also the universities and institutes like ISM, deeply concerned with the growth and application of earth sciences in the national perspective, need to come together so that a proper orientation could be given to the modern unified approach to data base systems. To begin with the Department of Mines, Ministry of Steel and Mines has already initiated a step in this direction and GSI and some public sector organisations, NIC, ONGC, etc. are at work on the preliminaries.

In general and in the national perspective the minerals and earth science based development could possibly be viewed rationally upto the turn of the century for integrated development plan. A new curriculum for higher education in earth sciences should be a part of this overall plan. The period could be broken into suitable phases with proper action plan so that the results of first phase could be put to use in following phase. In other words, the action plan for the remaining years of the VII Plan and the VIII Plan would be crucially important, if we wish to have a practical integrated view point developed upto the turn of the century for research, mineral resources, and rationally oriented technical and scientific manpower development.

NATIONAL INSTITUTE FOR THE MENTALLY HANDICAPPED

Manovikas Nagar, Bowenpally P. O., Secunderabad 500 011

Admission to Bachelor's Degree Course in Mental Retardation
(1988-89 Session)

Applications are invited for admission to the first year of the Three Years' Degree Course in Mental Retardation conducted by the National Institute for the Mentally Handicapped, Secunderabad. The course is affiliated to the Osmania University.

Seats : The total number of seats are 17 from all over the country.

Eligibility : (a) The candidates must have passed 12th standard of the 10+2 pattern or equivalent examination with a minimum of 50% marks in aggregate (40% in the case of SC/ST candidates). Those candidates who are appearing for the 12th standard examination of 1987-88 session are also eligible to apply provided a certificate obtained from the Head of the educational institution, is enclosed alongwith the application. (b) Age : The candidate should have completed 16 years as on 1.7.1988.

How to Apply : Application form together with detailed prospectus containing the detailed instructions including eligibility conditions for admission to the above degree course can be had personally from the office of the Director, NIMH, Secunderabad 500 011 on submission of a demand draft for a sum of Rs. 5/- per set; or through post by sending a request alongwith demand draft for Rs. 5/- payable to the Director, NIMH, Secunderabad 500 011 alongwith a self-addressed stamped envelope for Rs. 7.50 of the size 28 cm x 12 cm, to the Director, National Institute for the Mentally Handicapped, Manovikas Nagar, Bowenpally P. O., Secunderabad 500 011 for despatching application form and prospectus by registered post.

Requests for application forms to be sent by post will be entertained upto 2 May, 1988.

Last date for receipt of filled-in application forms is 23 May, 1988.

Architecture and Human Behaviour

Modern architecture with its excessive stress on aesthetics has been cut off from human behaviour, said Sri Karekar, noted Architect from Bangalore.

Inaugurating the three-day 30th Annual Convention of National Association of Students of Architecture (NASA) "Architecture and Human Behaviour" organised by Manipal Institute of Technology, Sri Karekar said it was necessary for architects to study human behaviour in detail and as far as possible refrain from concentrating only on the beauty of the building.

He called on the new generation of architects to strictly follow professional standards in their work. He stressed that an architect should work in harmony with civil engineers to evolve modern building designs conducive for human dwelling.

He cautioned the budding architects against defective designing and said negligence in drawing the blue prints of a superstructure could bring down both the building and the reputation of the community of architects.

JNU Entrance Examination

The Jawaharlal Nehru University has announced the schedule for the Entrance Examination for admission to various Programmes of Study at the University for the year 1988-89. The entrance test will be held in 24 Centres spread all over the country from 19 to 21 May, 1988. The application forms shall be issued upto 4th April, 1988. The last date for the receipt of application forms is 11 April, 1988. Announcement for admission to Direct Ph.D. and part-time programmes will be notified in due course.

Since JNU entrance examination for admission to various science disciplines has been accredited by the UGC on par with its National Educational Testing (NET) examination for the award of Junior Research Fellowships (JRF), candidates joining the M. Phil/M. Tech./Ph. D. programmes in the Schools of Computer and Systems Sciences, Life Sciences, Environmental Sciences, Physical Sciences and the Centre for Biotechnology on the basis of their *inter se* merit in the JNU test would now become automatically eligible for the award of JRF without their having qualified the NET examination conducted by the UGC. The accredition is for three years for the present.

Eligibility Test for Lecturers

Indira Gandhi National Open University (IGNOU) will perhaps be the first University in the country to hold eligibility test for the post of Lecturer in various disciplines. This test which shall be held on April 17, 1988 at Bombay, Hyderabad, Patna, Bhopal, Lucknow, Guwahati, Delhi and Calcutta will gauge the candidates from the quantitative as well as qualitative point of view. Various disciplines for which this test will be held are Public Administration, Economics, Chemistry, Life Science, Physics, Geography, History, Psychology, Computer, Library Science, Performing Arts, Political Science, Education and Home Science. The test shall comprise 2 parts viz. objective and reflective type. While objective type questions will be common for all candidates, reflective type shall be discipline based. Those who pass this test will be finally called for interview in that discipline. University will, therefore, attract the best possible talent in the country by way of this eligibility test.

News from Agril. Varsities

Energy in Agriculture

Institution of Engineers (India), Karnal Local Centre and the Indian Society of Agricultural Engineers, Hisar Chapter recently organised a Seminar on "Energy in Agriculture" at Haryana Agricultural University. Dr. Har Swarup Singh, Vice-Chancellor, HAU inaugurated. He said : In Indian agriculture, the energy derived from the sun has greatly influenced techniques and processes of crop production. Only about 10% is contributed by way of manpower, animal, fertilizers, pesticides beside fuels and electricity. Dr. Singh expressed concern for the depleting reserves of fossil fuels.

He emphasised energy plantation at various levels i.e. social forestry, farm forestry etc. to maintain the environmental and the ecological balance. Over the years, this can further contribute to the availability of wood for several purposes. Dr. Singh further stressed that efficient use of machinery and equipment in agriculture combined with effective care, timely use, management and operation with precision contributes to savings energy and increase in productivity. He exhorted the engineers to develop a comprehensive methodology taking into consideration the on and off farm energy, directly or indirectly put to crop production and household and asked the researchers to carry out micro level savings for proper planning by inter-disciplinary approach.

Professor M.L. Jain, Convenor of the Seminar and Chief Engineer, HAU said that amongst the various aspects of energy in agricultural production, the participants would discuss energy use pattern for production of paddy and wheat in Haryana, structure and pattern of energy sources in the state, bio-gas production from cattle waste as affected by saline water etc.

Seminar on Environment Pollution

Occurrence of toxic amount of fluoride in well waters has been reported in various parts of the country particularly. in Andhra Pradesh, Panjab, Haryana, Delhi and Rajasthan. The excessive intake of fluoride is toxic to human beings and causes many diseases, said Dr. Har Swarup Singh, Vice-Chancellor, Haryana Agricultural University (HAU) while inaugurating a 2-day seminar on Environment Pollution and its Management. Dr. Singh expressed concern over the imbalance in nature and stressed a thorough understanding of the agro-chemicals under different conditions and the possible adverse affects they may have. He urged upon the scientists to formulate strategies of judicious use of agro-chemicals and help in keeping the environment healthy and uncontaminated.

The seminar, being organised by the Department of Environment, Govt. of Haryana and Haryana Agricultural University, has attracted about 130 scientists from different disciplines

Lac Sheller Developed

The Agricultural Engineering Unit of the Birsa Agricultural University, whose Birsa seed drill has earned the appreciation of the I.C.A.R. and has been recommended for adoption by all the states in India, has now evolved yet another instrument for the extraction of Lac.

The scientists of the Unit have evolved three prototypes of Lac Sheller, which has the capacity to extract three times more of Lac compared to the conventional method without any waste. The approximate cost of the Lac Sheller is expected to be Rs. 350/-.

Till now Lac is being extracted by Dabia—a conventional tool. In this conventional system, the time taken is more and the extraction of Lac alongwith waste is much more to make it a profitable venture.

News from Abroad

Women in Scientific and Technological Development

The Third World Academy of Sciences with financial support from the Canadian International Development Agency plans to convene a major conference on *"The Role of Women in the Scientific and Technological Development of the Third World"* to be held in Trieste, Itlay during 3-7 October 1988.

The Conference will bring together a large number of leading women scientists and technologists in the Third World as well as some eminent women scientists and technologists from advanced countries, thereby enabling them to share experiences and exchange ideas in a number of issues, including :

- The Status of Women in Science and Technology in various Third World countries.
- Reasons for discrimination of women scientists in various countries of the Third World and measures to avoid such discrimination.
- Role of women in scientific leadership and decision making.
- The ways and means of involving young talented women in Science and Technology projects in the Third World.
- Identification of the most important achievements carried out by women from the Third World in various scientific fields.
- Characterization of fields where women seem more creative than men.

It is expected that the Conference and the Roundtable discussions, which will be held on specific themes during the Conference, will result in a 3-5 years Project which should help in providing a substantial enhancement of the Role of Women in the Scientific and Technological Development of the Third World. The Project may involve among other things :

- The development of an *inventory of women scientists* in various fields and countries in the Third World.
- The establishment of an *association of women scientists* active in the Third World.

- The development of concrete South-South and South-North collaboration programmes in which women and men scientists play equal roles.

Further information can be obtained from the Executive Secretary, Third World Academy of Sciences, C/o International Centre for Theoretical Physics 34100 Trieste (Itlay).

University Administrators to Meet at Maryland

The Sixth International Meeting of the Conference of Registrars and Secretaries and Conference of University Administrators of the United Kingdom has been scheduled to be held from 23 to 28 July, 1989 at the University of Maryland, College Park Campus, Center of Adult Education in the United States of America.

Several national associations such as the American Association of Collegiate Registrars and Admission Officers (AACRAO), the National Association for Foreign Students Affairs (NAFSA) are expected to join with the University of Maryland in hosting the Meeting.

Further details can be had from :

Dr. John A. Bielec,
Assistant Vice-Chancellor for Administration,
Main Administration Building
College Park,
Maryland 20742
USA.

Sports News

University Level Coaching Camps—1988-89

80 Coaching camps are allotted to various universities every year under the University Level Coaching Camps Scheme that has been in operation since 1980-81. For the present, the scheme is confined to 10 disciplines and 8 camps are organised for each discipline. The disciplines included in the scheme are Athletics (M&W), Badminton (M&W), Basketball (M&W), Football (M), Hockey (M&W), Volleyball (M&W) and Wrestling (M). The period prescribed by AIU for organising these camps is from May to September. AIU renders financial assistance to the universities for organising these camps, which are primarily aimed at nurturing university sports talent during the long summer vacation when the students tend to slacken. For the year 1988-89, these camps have been provisionally allotted to 38 university centres as per details below :

1. Athletics (M&W)

1. Allahabad, 2. Gandhiji, 3. G N.D.U., 4. Madras, 5. Punjabi, 6. Rajasthan, 7. Shivaji, 8. Calicut

2 Badminton (M&W)

1. Jiwaji, 2. Jodhpur, 3. Marathwada, 4. Meerut, 5. Patna, 6. Punjab Agrl., 7. Rani Durgavati, 8. Calicut.

3. Basketball (M)

1. Aligarh, 2. Berhampur, 3. Calcutta, 4. Haryana Agrl., 5. Mysore, 6. Osmania, 7. Patna, 8. Vikram.

Basketball (W)

1. Gandhiji, 2. Gujarat, 3. Kerala, 4. Kurukshetra, 5. Lucknow, 6. Sardar Patel, 7. S.N.D.T., 8. Banasthali.

5. Football

1. Aligarh, 2. Kashmir, 3. Madras, 4. North Bengal, 5. Panjab, 6. Shivaji, 7. Burdwan, 8. Calicut.

6. Hockey (M)

1. Delhi, 2. Kurukshetra, 3. Ranchi, 4. Meerut, 5. Osmania, 6. Panjab, 7. Punjab, Agrl., 8. Punjabi.

7. Hockey (W)

1. Delhi, 2. G.N.D.U., 3. Gujarat, 4. Kerala, 5. Ranchi, 6. Punjabi, 7. Panjab, 8. Banasthali.

8. Volleyball (M)

1. Aligarh, 2. Allahabad, 3. Berhampur, 4. Himachal Predesh, 5. Mangalore, 6. Mysore, 7. Rani Durgawati, 8. Rajasthan.

9. Volleyball (W)

1. Calcutta, 2. Gandhiji, 3. G.N.D.U., 4 Kerala, 5. Osmania, 6. Ranchi, 7. Sardar Patel, 8. S.N.D.T.

10. Wrestling

1. Gujarat, 2. Kurukshetra, 3. Marathwada, 4. Meerut, 5. M.D.U., Rohtak, 6. Punjab Agrl., 7. Shivaji.

GND Varsity Bags Maulana Azad Trophy

The Guru Nanak Dev University, Amritsar, has won the Coveted Maulana Abul Kalam Azad Trophy for the year 1986-87, for the ninth time in succession. The members of the Senate of the university commended the performance of the Sports Departmen for its excellent achievements.

Dr. S.S. Bal, Vice-Chancellor, informed that the Government has approved the laying of an Astro-Turf at the University and a sum of Rs. 50 lacs will be provided for the purpose. The State Government has also agreed to contribute the matching share.

News from UGC

INSAT-1B Programme of UGC

Between 11th April to 30th April, 1988 the following schedule of telecast on higher education through INSAT-1B under the auspices of the University Grants Commission will be observed. The programme is of one hour duration every day from 12.45 p.m. to 1.45 p.m. (Repeated from 4 p.m. to 5 p.m.) and will be available on the TV Network throughout the country. For the viewers in Delhi and surrounding areas these programmes can be seen on the second channel.

11.4.88

"Chemistry of Manmade Fibres-II"
"Light on Lasers"
"The Micro-computers"

12.4.88

"Communication II—Communication Models"
"Juvenile Justice"
"A Little More Consideration, A Little More Thought"

13.4.88

"Mediteranean Oceanography"
"Membranes"

14.4.88

"When the Artifacts Speak"
"The Origin of the Earth"

15.4.88

"The Binomial Theorem"
"Space Shuttle—The Launch"
"Star Town"

16.4.88

"Appreciation of India Dance-I"
"Simply Start"

17.4.88

No Telecast

18.4.88

"Absurd Stars: The Study of White Dwarf"
"Ionisation Radiation and Nuclic Acids"
"Transport Contours of the Future"

19.4.88

"Management of Development-Project-I"
"Raw Materials—Cocoa"
"Microlevel Planning-I"

20.4.88

"Voyage of Discovery"
"Enzymes"
"Basic Surgical Instruments"

21.4.88

"After the Earth Quake"
"Tidal Bone"
"The Nile in Egypt"

22.4.88

"Sin (Alpha+Beta)"
"Space Shuttle—In Orbit"
"Better Engines"

23.4.88

"Appreciation of Indian Dance-II"
"The Ceramic Art in Japan"

24.4.88

No Telecast

25.4.88

"The Haemoglobin Molecule"
"Introduction to Chemical Bonding"

26.4.88

"Management of Development-Project-II"
"Eutrophy and What to do About It"
"Microlevel Planning—II"

27.4.88

"Allostery"
"Reproduction in Animals"
"Laser in Medical Therapy-II"

28.4.88

"Concept of India—I India in World Maps"
"Crust and Mantle"

29.4.88

"Functions"
"Dewatering by Wellpoint System"
"Space Shuttle—The Landing"

30.4.88

"Appreciation of Indian Dance-III"
"Robert Frost : A First Aquaintance"
"University Round-Up"

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The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in bibliography. Such Universities as are not sending us regular information in respect of Doctoral Theses accepted and research scholars enrolled are welcome to make use of these columns.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

RESEARCH IN PROGRESS

A List of Research Scholars Registered for Doctoral Degrees of Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Alonay, Mahipat Rao. *Endomorphism ring of flat modules.* HS Gour. Dr. R S. Singh

2. Arjariya, Anil Kumar. *Fixed point theorems for some mappings.* HS Gour. Dr. R.K. Jain.

3. Badbude, Ramesh Kumar. *Endomorphism ring of quasi injective modules.* HS Gour. Dr. R S. Singh.

4. Chourasia, Bharati. *Some problems on fixed point theorem.* HS Gour. Dr. K.C. Srivastava,

5. Gangele, Sudhir Kumar. *Some problems on fixed point theorems.* HS Gour. Dr. K.C. Srivastava.

6. Khan, Subhan. *Fixed point theorem.* HS Gour. Prof P.L. Sharma.

7. Kushwaha, Ram Chandra. *Theory of relativity.* BHU. Dr. T. Singh.

8. Pandey, Rang Nath. *Optimal ordering in sparsity techniques applied to large power system networks.* BHU Dr. O P. Singh.

9. Pandey, Sheel Sindhu. *A study in the theory of multipliers in Banach and locally convex spaces.* HS Gour. Prof. P.L Sharma.

10. Sinha, Vivek Kumar. *Applied functional analysis and operations research.* BHU Dr. R.N. Mukherjee.

11. Srivastava, Renu. *Quasi flat module.* HS Gour. Dr. R.S. Singh.

12. Srivastava, Shashi Kant. *Fluid mechanics and magnetohydrodynamics.* BHU. Prof. H.L. Agrawal.

13. Tewari, Poonam. *Strongly M-projective module.* HS Gour. Dr. R.L. Singh.

14. Tewari, Sharad Kumar. *A study of continuous functions and spaces.* HS Gour. Dr. R. Prasad.

Physics

1. Agarwal, Bhushan. *Charge transport in organic semiconductors and polymers : A search for organic photo-voltaic materials.* Devi Ahilya. Dr. Brijesh Kumar.

Chemistry

1. Bhadouria, Brijesh Kumar. *Studies on phytoestrogens of Sopubia delphinifolia (Fam. Scrophulariaceae).* HS Gour. Prof V K Saxena.

2. Garg, Ravindra Kumar. *Preparation and physio-chemical studies of dithiocarbamate complexes of some metals.* Delhi. Dr. B.S. Garg.

3. Gouda, Panchanana. *Synthetic studies in benzopyrone derivatives.* Delhi. Prof. S.K. Grover.

4. Hans, Naresh. *Synthetic studies in polyphenolics.* Delhi. Prof S.K. Grover.

5. Jahromi, Mohammad Ali Farboodniay. *Medicinal chemistry : Studies and biological activities of phytochemicals.* BHU. Prof. A.B. Ray and Dr. J. P.N. Chansuria.

6. John, Liza. *Nuclear chemistry : Separation of some fission products.* BHU. Dr. R.N. Singh.

7. Mathew, Jose. *Studies on corrosion of bronze in aqueous solutions.* BHU. Dr. Ravindra Nath.

8. Misra, Suman. *Biochemistry of human filarial parasite, W. bancrofti.* BHU. Dr. (Mrs) S. Rathaur.

9. Pandey, Jagdamba Prasad *A study of coordination compounds of some bivalent and trivalent transition metal ion with hydrazine derivatives.* BHU. Dr. K.K. Narang.

10. Pandey, Sanjay Kumar. *Synthesis and characterisation of organometallic compounds.* BHU. Dr. V.B. Pandey and Dr. V.P. Singh.

11. Rohatgi, Amit. *Chemistry of natural products.* Delhi. Dr. S.C. Jain.

12. Satapathy, Sanjukta. *Biomimetic studies of biologically active heterocycles.* Delhi. Dr. S.M.S. Chauhan.

13. Singh, Indra Mani. *Photoelectro-chemical solar cell.* BHU. Dr. Lal Bahadur.

14. Singh, Mamta. *Synthesis and stereochemical studies.* BHU. Dr. R.M. Singh.

15. Singh, Pramod Kumar. *Studies on organic conductor.* BHU. Prof. S.M. Verma.

16. Singh, Vineeta. *Radio tracer studies on adsorption.* BHU. Dr. S.P. Mishra.

Engineering & Technology

1. Amar Nath. *A.C. impedance studies on metallic corrosion.* BHU. Prof. T.K.G. Namboodhiri.

2. Banerjee, Uttan Chand. *Fermentative production of rifamycin oxidase and optimization of process parameters for enzymatic-conversion of rifamycin B to Rifamycin S.* Panjab. Dr. S.C. Jain and Dr. Sunil Das.

3. Cheriyan, Achamma. *Studies on the behaviour and strength of fibre reinforced concrete structural members.* Kerala. Dr. S. Krishnan.

4. Gupta, Thummalapalli Kumara Siva Prasad. *Studies on semi-conducting chalcogenides.* BHU. Dr. Shamsuddin and Prof P. Ramachandra Rao.

5. Mishra, Awadhesh Kumar. *Some geological factors affecting physico mechanical properties of rocks.* BHU. Dr. R. Nath.

6. Sharma, Manoj Kumar. *Project management : A study of corporate strategies : Planning system for resource allocation and scheduling of resource constrained projects in multiproject organisation.* Delhi. Prof. Rajnish Prakash.

7. Saluja, S.S. *Studies of metal deformation in foraging and extrusion.* Delhi. Dr. D.P. Grover.

8. Singh, Krishna Kant Kumar. *Rock mechanics.* BHU. Prof. D.P. Singh.

9. Sreenivasa Rao, Chavakula. *Mine environmental pollution.* BHU. Prof. B.B. Dhar.

BIOLOGICAL SCIENCES

Marine Biology

1. Benny, P J. *Studies on L-appsraginase activity in microorganisms of Ashtamudi lake.* Kerala. Dr. K. Dhenvendran.

2. Bindu, B. Kavitha. *Some studies on the effect of heavy metal pollutants on esturaine animals with particular reference to copper and zinc.* Kerala. Dr. Tresa V. Fernandez.

3. Geethamony, S. *Studies on bacterial diseases of fishes of South West Coast of Kerala.* Kerala. Dr. K. Dhevendran.

4. Joe, O. Wilfred. *Distribution of trace metals in the Ashtamudi estuary, Kerala with special reference to molluscs.* Kerala. Dr. P.K. Abdul Aziz.

5. Kumar, U.G. *Studies on the estuarine bivalves of the Kerala Coast.* Kerala. Dr. N. Balakrishnan Nair.

6. Thomas, George *Comparative studies on the ecobiology of mangrove communities along the backwater systems of Kerala.* Kerala. Dr. Tresa V. Fernandez.

Biochemistry

1. Agrawal, Rajendra Kumar. *Immunology of filariasis.* BHU. Dr. (Mrs) S. Rathaur.

2. Bhatia, Ranu. *Studies on the cultivation and genetics of biocide producing bacilli.* BHU. Dr H.P. Pandey and Prof R.H. Singh.

3. Durga Prasada Rao, P.V.S.S. *Phosphorylases and phosphatases in Lens esculenta seedlings.* BHU. Dr. (Mrs) V. Taneja.

4. Misra, Mahendra Kumar *A biochemical study of some psychiatric disorders.* BHU. Dr. H.P. Pandey and Prof. R.H. Singh.

5. Singh, Satyendra Bahadur *Metabolism in plants.* BHU Dr. Om Prakash.

Botany

1. Ajith Kumar, T. *N_2 fixing cyanobacteria.* BHU Dr D.N. Tiwari.

2. Mishra, Surya Sankar. *Basipetal mobilization of photosynthesis from senescing cotyledons of Raphanus sativus seedling* Sambalpur. Dr. U.C. Biswal

3. Mishra, Sushma *Air pollution.* BHU. Dr. (Mrs) M. Agrawal.

4. Panda, Ram Krishna. *Ecophysiological studies on the little leaf disease of Solanum melongena L.* Sambalpur. Dr Ram Krishna Kar.

5. Patnaik, Anuradha *Basipetal mobilization of nitrogen assimilates from senescing cotyledons of Raphanus sativus seedlings.* Sambalpur. Dr. N.K. Choudhary.

6. Sahu, Sushil Kumar. *Physiology of inflorescence growth and development in rice varieties differing in duration of growth* Sambalpur. Dr P.K. Mohapatra.

Zoology

1. Arora, Chandra Bhan. *A study of the biology of Coptotermes Rhinotermitidae : Isoptera : Insecta.* Panjab. Prof. H.R. Pajni.

2. Chaurasia, Pratima. *Phasing of nucleosomes on satellite DNA of rats during aging.* BHU Dr. M.K. Thakur.

3. Das, Abhay Kumar. *Evaluation of some Indian earthworm casts and tissues as media for mushroom growth and vermifeed for Japanese quails.* Sambalpur. Dr. M.C. Dash.

4. Hota, Prafulla Kumar. *Ecology of soil nematodes in tropical irrigated crop fields of Sambalpur, India.* Sambalpur. Dr. G.B. Pradhan.

5. Mishra, Vinod Chandra. *Some physiological and biochemical effects of braceation stress on tropical earthworms.* Sambalpur. Dr. T.V. Rao.

6. Mohandad, N.N. *Evolutionary genetics.* BHU. Prof. T. Sharma.

7. Mohanty, Ashok Kumar *Studies on some physio ecological, biochemical and biometric aspects during development in the tasar silkworm, militea Daud.* Samalpur. Sri Ashutosh Mittra.

8. Nayak, Rama Kumar. *Pollution studies in and around Bargarh (Orissa) due to Hira Cement Factory aerial discharges.* Sambalpur. Dr. B.N. Naik.

9. Singh, Sunita. *Genetic variation in the Indian pygmy field mice.* BHU. Prof. T. Sharma.

10. Srinivasa Rao, M. *Impact of heavy metals on fish skin* BHU. Dr. A.K. Mittal.

11. Srivastava, Sushil Kumar. *Studies on insects reproduction and development.* BHU. Prof. K.P. Srivastava.

12. Tripathi, Dinesh Kumar. *Pineal control of estrogen receptor complex in female Indian palm squirrel, F. penanti.* BHU. Dr. C. Haldar.

13. Vidhu, S. *Male hormone and DHT receptor function in accessory sex organ of male Indian palm squirrel, F. pennanti.* BHU Dr. C. Haldar.

Agriculture

1. Kashyap, Uma. *Namatode fauna of forests, its ecology, pathogenicity and role in litter decomposition.* Sambalpur. Dr. N K. Sharma and Dr. P.C. Mishra

Medical Sciences

1. Basak Asim Kumar. *Studies on the pathogenesis of gallstone.* BHU. Prof. N N. Khanna.

2. Bhaduri, Brahm Gopal. *Aushadhiyon par grah nakshatron ka prabhav ka adhyayan.* BHU. Prof. J K. Ojha.

3 Sharma, Pramod Kumar. *Study of different chemotherapeutical agents in urogenital malignancies.* BHU. Prof. V.N.P. Tripathi.

4. Tyagi, Pankaj. *Chemistry and pharmacology of medicinal plants.* BHU. Prof. J.K. Ojha and Dr. S.K. Datta.

THESES OF THE MONTH

A List of Doctoral Theses Accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1 Bhargava, Dinesh Chandra, *Investigations into certain aspects of special functions transformations and their application* Rajasthan Dr A N. Goyal

2 Choudhury, Khanindra Chandra. *A study of goldie rings and modules and associated concepts* Gauhati. Dr. Binay Kumar Tamuli.

3 Dass, Jagannath *Transient analysis of some finite simple birth-death models.* IIT Delhi Prof O.P. Sharma.

4 Ghosh, Bandana *Some problems connected with differential operators and special functions* Calcutta.

5 Mukhopadhyay, Sailesh *Some problems on statistical mechanics (foundations) from abstract standpoints* Calcutta.

6. Mukhopadhyay, Samares *Some problems of elastic and piezoelectric crystals.* Calcutta.

7 Patel, Tulananda. *Some results on sequence spaces.* Sambalpur. Dr. S Nanda and Dr. M N. Mishra.

8 Patil, Mahadeo Raghunath *Some 'problems in fluid mechanics* Shivaji

9. Premchand, S. *Semigroup of stochastic matrices.* Kerala. Dr. K S. Subramonian Namboodiripad.

10. Shah, Madhubala Arun. *Rheology of special materials in relativity.* Shivaji Dr. B.B. Waghmode.

11. Shahwan, Othman Said Yousef. *A study of transfinite bases in banach spaces* Jamia. Dr Khalil Ahmad.

Statistics

1. Deshpande, Vijay Vasantrao. *A study of certain models in demography pertaining to Ambajogai town.* Marathwada. Dr S G. Prabhu Ajgaonkar.

2. Harishchandra, K. *Applications of optimization and statistical techniques in design and control of queueing systems.* Bangalore. Dr. S. Subba Rao and Dr. T. Srivenkataramana.

3. Sarma, Putcha Venkata Subrahmanya. *Models and measures of fertility for regional comparisons.* Andhra.

Astronomy

1. Sarma, M Kameswara. *Comparative synthetic light curve studies of four eclipsing binaries on ellipsoidal and roche models* Osmania.

Physics

1 Agarwal, Vandna. *Synthesis, microstructure and mechanical properties of chromium carbide and chromium nitride films* IIT Delhi, Prof K.L. Chopra.

2 Baruah, Mandira. *A study on the relationship between the trace contents, uranium and boron and medicinal properties of some common medicinal plants of Assam.* Gauhati. Dr. T D Gowswami.

3 Chakraborti, Sibkumar. *Homogeneous spacetimes and electromagnetic fields in general relativity.* Calcutta.

4. Chakraborty, Taposh *Laser raman studies of orientational dynamics of molecular ions and phase transformations in ammonium perchlorate single crystals* NEHU. Dr. A.L. Verma

5. Desai, Jayashree Shrinivas. *Some studies on Cu-In-S thin films and their use in BCPV cells.* Shivaji. Dr. S.H. Pawar.

6. Joshi, H H. *Investigation of magnetic and electrical properties of ferrites.* Saurashtra. Dr. R.G Kulkarni.

7. Joshi, Prabhakar. *Study of consequences of superluminal Lorentz transformations.* Kumaun. Prof. B S. Rajput.

8. Krishna Murthy, Kolla. *Application of current algebra and peac to kaon proton interactions* Andhra.

9. Kumbhakar, Dharmadas S. *Quark models and gauge theories* Calcutta,

10. Nandi, Jitendra Narayan. *Principal magnetic susceptibilities of some rare earth ions in crystals at low temperatures and a study of the crystalline electric fields.* Burdwan. Prof. Dhiraj Neogi.

11. Neogi, Aparna. *Theoretical and experimental studies on the paramagnetic behaviour of some rare earth and iron group ions in crystals.* Burdwan.

12. Padiyan, D. Pathinettam. *X-ray diffraction studies on crystalline solids.* Madurai.

13. Palchoudhari, Shanta Dhiraj. *Studies on superionic solids.* Marathwada. Dr. G.K. Bichile.

14. Pathak, M.S. *Acoustic wave interactions in solid state plasma.* Vikram. Dr. S. Ghosh.

15. Ramesh Babu, Gorge. *Experimental investigations on KC-X-Ray satellites excited by photons.* Andhra.

16. Rujh, Abdul Javed Nouvin. *Development and study of solar cells.* Devi Ahilya. Dr. R.P. Pandey.

17. Singh, Vipin Bahadur. *Molecular electronic spectroscopy of indium monobromide.* BHU. Prof. D.K. Rai.

18. Sinha, Kumar Virendra. *Computer-aided modelling and simulation of slow positron behaviour in light-gases.* Delhi.

19. Subrahmanya Swamy, Madhyannapu Leelanada. *Ultrasonic study of phase transitions in cholesteric liquid crystals.* Andhra.

20. Surendra Singh. *Electrical properties of sodium-niobate silicate glasses.* Delhi.

21. Varshney, R.K. *Temperature dependence of second, third and fourth order elastic constants of nace-structure alkali halide crystals.* Kumaun. Dr. Jai Shankar.

22. Venugopal, C. *Near perpendicular propagation of ion-cyclotron and electromagnetic waves in a loss cone plasma.* Kerala. Dr. K S. Viswanthan.

23. Verma, Indu Bhushan. *Far infrared non-linear photoresponse in silicon-inversion layers.* Delhi.

24. Vikram Kumar, B.T. *A study of the equatorial ionospheric irregularities using V.H.F. backscatter and H F. phase coherent radar techniques.* Kerala. Dr. P. Balarama Rao.

Chemistry

1. Ateeque Ahmad. *Isolation of new terpenoids from essential oils of potential value and elucidation of their structures.* Avadh. Dr. M.C. Nigam.

2. Bandyopadhyay, Anup Kr. *Complex equilibria of some rare earth metal ions with some chelating ligands in some mixed aqueous solvents.* Bardwan. Prof. Ajay Kr. Choudhuri.

3. Basu, Srabani. (A) *Chemical investigation of Dendrobium gibsonii, D. densiflora and Jacquinia ruscifolia (B) Studies on synthetic heterocycles.* Calcutta.

4. Batra, Rameshkumar Jeewandas. *Neutron activation analysis of geological samples using low flu 241 Am-Be neutron source.* Nagpur. Dr. A.N. Garg.

5. Bayan, Kiran Chandra. *Studies on extractive spectrophotometric determination of some metalions in micro quantities with benzyldimethylphenylammonium chloride and benzyltriethylammonium chloride.* Gauhati. Dr. Himadri Kr. Das.

6. Bhatt, V.C. *Preparation and solution properties of co-polymers.* Bhavnagar. Dr. R.S. Patel.

7. Chattopadhyay, Debabrata. *Kinetics and mechanism of oxidation of Cis-diaquo-bis-ethylenediamine cobalt (III) ion by bidentate ligands.* Burdwan. Prof. Gauri Sankar De.

8. Doshi, A.V. *Study of mesomorphism and exploration of its characteristics.* Saurashtra. Late Dr. J. M. Lohar.

9. Juneja, Ravindra Kumar. *Chemical investigation of ethno botanical medicinal plants.* Avadh. Dr J.S. Tandon.

10. Kuchekar, Shashikant Raghunath. *Extraction separation studies of some metals.* Shivaji. Dr. M.B. Chavan.

11. Kundu, Anjali. *Studies on the chemistry of plant products and oxidative phenol coupling.* Calcutta.

12. Kurian, M.J. *Studies on some complexes of trivalent manganese.* Kerala. Dr. C.P. Prabhakarn.

13. Linga Reddy, C. *Approaches to the syntheses of anthracyclinones and quassinoids.* Hyderabad. Dr. M. Nagarajan.

14. Manek, Tarulata K. *Studies in the chemistry of indandiones and related systemt.* Nagpur. Dr. G. Bagavant.

15. Mangeswara Sastry, Chellapilla Venkata. *Regioselective reagents in the synthesis of 1-phenylnaphthalene lignan lactones.* Andhra.

16. Mazumdar, Sanjiv Kumar. *Physico-chemical characteristics and catalytic activity of some mixed first transition series metal oxides.* IIT Delhi. Dr. A.S. Brar.

17. Mehta, S.P.S. *Kinetics of oxidation reactions of hexacyano ferrate (III) ion.* Kumaun. Prof. R.N. Mehrotra.

18. Mitra, Susil Kumar. *On marine and plant heterocyclic compounds.* Calcutta.

19. Pant, Alka. *Study of composition of some high altitude flora.* Kumaun. Dr. C.S. Mathela.

20. Patel, Premananda. *Some physicochemical studies on ionic substitutions in the bone mineral. D.Sc.* Sambalpur. Dr. R.N. Patel.

21. Pitre, Sandhya. *Chemical investigation of some Indian medicinal plants.* HS Gour. Dr. S.K. Srivastava.

22. Prasad, Sachchida Nand. *A study of transition metal complexes of thio ligand.* Magadh.

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1. **Raul Prebisch and Development Strategy, 1988.** pp. xi+295, Rs. 150, US $30

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23 Ramavat, Bharatkumar Kalidas. *Studies on chemistry of marine algae of Saurashtra Coast.* Bhavnagar. Dr. A V. Rao

24 Sabiha Khatoon *Kinetics and mechanism of some metal ion-catalysed reactions* Utkal

25 Sahu, Ashok Kumar *Kinetics and mechanism of some oxidation reactions* Berbampur Prof Subas C Pati and Dr Y Sriramulu.

26 Sarita Devi *Studies on cyclopeptide alkaloids of some Zizyphus species* BHU. Dr V.B Pandey

27 Sarma Tarun Chandra *A few aspects of the chemical properties and biochemical effects of Boerhaavia diffusa Linn.* Gauhati Dr Pratul Goswami

28 Sharma, Sushma *Physico chemical studies on metal complexes of some biologically important sequestering agents.* Rajasthan. Dr K K Saxena and Dr, R S. Saxena

29 Shukla, Dipak Balvantrai *Utilisation of indigenous resources in the studies of synthetic zeolites and silicates* Bhavnagar. Dr V P Pandya

30 Singh Ajay Pratap *Characterization of Na+K+— Atpase in rat brain its role in neuronal transmission and effect of xenobiotics* Avadh Dr A K Srivastava

31 Singh Chandra Bhan *Studies on soil water and problems of salinity in the Saryu Canal Command Area of Block Sridattganj District Gonda* Avadh Dr P P Singh

32 Singh Dibya *Spectral studies of the complexes of organobimetallic theory and selenocyanate* Avadh. Dr. S P Yadav

33 Sridevi G *New heterocycles derived from 2 amino 1 3 4 thiadiazoles 2 aminobenzimidazole, 3 aminoisoxazole and isoxazole-carbonyl azides* Osmania

34 Tandon, A K. *Phytochemicals from the high altitude flora of Kumaun Himalaya.* Kumaun Dr K S Khetwal.

35 Verma Neeraj *Chemical investigations of biologically active plants* Avadh Dr J S Tandon

36 Verma, V.S *Investigations on some biologically important mixed ligand complexes of amino acids and peptides with Pt II and Cu(II) ions* Vikram Dr M S Verma

Earth Sciences

1 Adinarayana, Kopuru Venkata *Studies on some sedimentological aspects of modern sediments of the Krishna River, India* Andhra

2 Chaudhri Naveen *Petrology and geochemistry of the granites and associated metamorphites of the Dhauladhar Range North of Palampur, District Kangra, Himachal Pradesh, India* Panjab,

3 Gopala Raju, Pasupati Venkata Virra *Studies on the chromite emplacement in parts of Eastern Ghats-India* Andhra

4 Jauhari, Pratima *Environment of formation of polymetallic nodules in parts of Indian Ocean* Kumaun, Prof K S Valdiya

5 Karmakar, Nivedita *Lead toxicity and its biological correlates.* IIT Delhi Dr Sneh Anand, Dr Girija Jayaraman and Dr R.K. Sexena.

6. Narasimha Rao, Gandham Gouri Sankara. *Some studies on influence of climate on grasslands in Western Rajasthan* Andhra.

7. Purushothama Reddy R *Mineralisation and beneficiation studies of Kallur Copper deposits, Raichur District Karnataka State.* Bangalare Dr S G Phene.

Engineering & Technology

1 Anandan C K *Compact broad band microstrip antennas using parasitic elements* CUST Dr K Gopalakrishnan Nair

2 Bandopadhyay, Soumitra. *Lossy magnetic energy storage systems for improvement of power system stability* IIT Delhi Prof S C Tripathy and Dr J K Chatterjee

3 Basu, Sushil Kr *Some tribological researches in machine tools and metal processing* D Sc Burdwan

4 Devarajan, G *Non-linear filtering application to digital signal processing median filtering Structures analysis and applications* CUST Dr C S Sridhar and Dr V K Aatre

5 Giridhar Godugunur *An integrated approach to the utilization of biomass Studies on Bougainvillea Spp and Calotropis procera (Ait) R Br* IIT Delhi. Prof P Vasudevan and Dr R.C Maheshwari

6 Jayasingh, T *Measurement and analysis of the roughness of ground surfaces and its application in monitoring wheel wear* IIT Delhi Dr. U R K Rao and Dr Anand Prakash

7 Mahanti, Ambujaksha *Aspects of Heuristic search in networks and AND OR graphs* D Sc Calcutta

8 Mishra, Siba Prasad *Studies on blends of poly butylene terephthalate* IIT Delhi Dr B L Deopura

9 Ray, Kumar Sankar *Control laws for unknown and imprecise plant* Calcutta

10 Satendra Kumar *Liquid phase adsorption of phenols onto granular activated carbon in stirred bath reactor* BHU. Prof Y D Upadhyaya

11 Sharma, Padam Nabh *Optimum design of a bus body structure* Rajasthan Dr K S Shah

12 Sitaramam, Bhamiddupalli Subrahmanya *Syntheses of polymerisable materials from fatty oils and their use in ultra violet curable coatings* Nagpur Dr M A. Sivasamban.

13 Sudhakara Reddy, M *Design of two-dimensional digital filters using transformation* IIT Delhi Prof. S C Dutta Roy and Prof S N Hazra

14 Swami, B L P. *Study of wind speeds in India and their effects on typical structures* IIT Delhi Dr K Seetharamulu and Dr K K Chaudhry

15 Venugopal Reddy, A *Studies on the influence of metallurgical parameters on solid particle erosion of ductile materials* BHU. Dr. G Sundarajan and Dr. S N Tiwari

16 Vinay Kumar *Catalytic vapour phase oxidation of P-xylene* IIT Delhi. Prof P D Grover

EDUCATION NEWS INDEX

A List of Select Articles and Editorials on Education from Newspapers received in the AIU Library during March, 1988.

EDUCATIONAL PHILOSOPHY

Lalitha Murali. Tagore and education. *The Hindu* 22 March, 1988

EDUCATIONAL POLICY & PLANNING

Anzar, Qamar Jahan. NEP : A policy with a difference. *The Hindu* 8 March, 1988.

Jha, Shashi Kumar. Education : Promises and the purse. *The Assam Tribune* 13 March, 1988.

OPERATION BLACK BOARD (Editorial). *The Indian Nation* 29 March, 1988.

EDUCATIONAL ADMINISTRATION

Amrik Singh. UGC indifferent. *The Hindustan Times* 29 March, 1988

Vedantam, Vatsala. A question of autonomy. *Deccan Herald* 20 March, 1988.

Venkata Reddy, K. Case for academicians as Vice-Chancellors *The Hindu*, 1 March, 1988.

Vyas, Neena. AMU admission—Communalists usurp varsity court-I & II. *The Statesman* 2 & 3 March, 1988.

INNOVATIONS & REFORMS

Sivaraman, S.M Education : A new experiment—"Freedom classes." *The Hindu* 29 March, 1988.

CURRICULUM

Jaspal Singh Politics of English. *The Tribune* 30 March, 1988

TEACHERS & TEACHING

Ramesh, G. Society gets the teachers it deserves *The Hindu* 15 March, 1988

Ram Mohan, C. and others. A retrograde step in UGC's policy. *The Hindu* 1 March, 1988

Safaya, Raghunath. Keep them on the job. *The Tribune* 10 March, 1988.

EDUCATIONAL RESEARCH

Sarker, Subhash Chandra. Scientific research. *Free Press Journal* 19 March, 1988.

Sitaram, K. Pure and applied research—A symbiosis. *The Hindu* 1 March, 1988.

EDUCATIONAL EVALUATION

Amrik Singh. Teachers—right or wrong ? *The Tribune*, 2 March, 1988.

Bhagyavathy, N E Role of psychological testing *The Hindu* 22 March, 1988

Dasgupta, Sangeeta and Sen, Rupamanjari. Is the review system a farce ? *Amrita Bazar Patrika*, 8 March, 1988.

UNIVERSITY EXAMS (Editorial). *The Indian Nation* 24 March, 1988

BOOKS & LIBRARIES

Naik, K D. Delhi fair—a feast for book lovers. *Free Press Journal* 3 March, 1988.

Panwar, Sango. Book fair Time for introspection. *The Pioneer*, 27 March, 1988

Rao, C N Promotion of reading habit. *Patriot*, 30 March 1988.

Sarkar, Subhash Chandra. The un-Indian book fairs *Free Press Journal* 12 March, 1988

STUDENTS & STUDENT ACTIVITIES

Stanley, Franklyn Graduates, where do they stand ? *The Hindu* 1 March, 1988.

PHYSICAL EDUCATION

Sahi, L P Hockey umpires deserve a better deal *The Telegraph* 29 March, 1988

ELEMENTARY & SECONDARY EDUCATION

Avtar Singh. Universal elementary education. *The Assam Tribune* 11 March, 1988.

MAHARSHI DAYANAND UNIVERSITY ROHTAK

Invites applications on prescribed form (obtainable from Asstt. Registrar (General) on payment of Rs. 2/- at Counter or through IPOs of Rs 3/- by post) containing full bio-data with attested copies of certificates/testimonials for award of a University Research Scholarship in **SANSKRIT** so as to reach the Head of Sanskrit Dept. of this University latest upto 7 5 88 Scholarship @ Rs 800/- per month+annual contingent grant of Rs. 3000/-, is tenable for two years in the first instance. Those possessing Master's degree in Sanskrit with atleast 55% marks, preferably with M Phil. degree, below 30 years of age as on Ist July, 1987 can apply. Incomplete/late applications will not be entertained.

REGISTRAR

इन्दिरा गांधी राष्ट्रीय मुक्त विश्वविद्यालय
INDIRA GANDHI NATIONAL OPEN UNIVERSITY

YMCA CULTURAL CENTRE, JAI SINGH ROAD, NEW DELHI-110 001

Applications are invited from Indian Citizens for filling up the following posts in the Indira Gandhi National Open University :

(1) **Professors: Commerce, Sociology**

Scale of Pay: Rs. 4500-150-5700-200-7300 plus usual allowances as admissible under the University Rules.

Qualifications: An eminent scholar with published work of high quality actively engaged in research. About ten years experience of teaching research and/or extension. Experience of guiding research at doctoral level.

OR

An outstanding Scholar with established reputation who has made significant contribution to knowledge. Explanation: F.P.M. (Indian Institutes of Management Doctoral Programme) will be treated as equivalent to a doctoral degree of a University.

(2) **Readers: Sociology, Public Administration, Physics, Philosophy and Management Studies**

Scale of Pay: Rs. 1200-50-1300-60-1900 (to be revised) plus usual allowances as admissible under the University Rules

Qualifications

(a) **For disciplines other than Management Studies**

Good academic record with a doctoral degree or equivalent published work. Evidence of being actively engaged in (i) research (ii) innovation in teaching methods or (iii) production of teaching materials. About five years' experience of teaching research and/or extension provided that at least three years are as Lecturer or in an equivalent position. This condition may be relaxed in the case of candidates with outstanding record of teachin research.

(b) **Management Studies**

Reader in Management Studies : Good academic record with a doctoral degree or equivalent published work. Evidence of being engaged in (i) research (ii) innovation in teaching methods or (iii) production of teaching materials. Five years experience of teaching, research and/or extension provided that at least three years are as Lecturer or in an equivalent position. This condition may be relaxed in the case of candidates with outstanding record of teaching/research. Preference will be given to candidates specialising in behavioural sciences or operations management or marketing management.

Explanation: For determining "good academic record" the following criteria shall be adopted :

(i) A candidate holding Ph.D. degree should possess at least a second class Master's degree or

(ii) A candidate without at Ph.D. degree should possess a high second class Master's degree and second class in the Bachelor's degree or

(iii) A candidate not possessing Ph.D. degree but possessing second class Master's degree should have obtained first class in the Bachelor's degree.

The following general conditions are applicable to all posts at 1 and 2 above.

(a) **Additional Qualifications:** Experience and proven ability in imparting education through communication media and innovations in distance teaching methods and materials.

(b) **Job Requirements :** Academic staff of this University will have the following responsibilities :

1. Curriculum and course development
2. Preparation of self instructional print material.
3. Preparation of and participation in the production of audio-video materials
4. Participation in contact programmes, workshops, week-end-programmes, summer institutes, face-to-face teaching etc.
5. Undertaking of research, individual, institutional sponsored etc

In addition to pay, the posts carry all allowances as per University rules. Higher start in the prescribed scale may be given in deserving cases on the recommendation of the Selection Committee. In a few cases, the University would be able to provide accommodation Provident Fund Pension, Gratuity, Leave Travel Concession, Medical reimbursement and Leave will be admissible as may be approved by the Board of Management. (It is anticipated that such benefits would be more or less comparable to other Central Universities).

The prescribed application forms can be had from **Registrar, Indira Gandhi National Open University, YMCA Cultural Centre, Jai Singh Road, New Delhi-110001** on a written request by post and accompanied by a self-addressed envelope (size 13 cms x 28 cms) bearing postage stamps of Re. 1.00. Completed application forms along with attested copies of degrees, experience etc. should reach the Registrar at the above address on or before **25th April, 1988.** The originals of the above degree certificates should be produced at the time of interview.

Candidates called for interview from outside Delhi will be paid single second class railway fare to and fro by the shortest route from their place of residence/work.

Canvassing in any form by or on behalf of a cadidate will be a disqualification.

Applications received after the last date or without complete information will not be entertained.

Note : 1. It will be open to the University to consider the names of suitable candidates who may not have applied. Relaxation of any of the qulifications may be made in exceptional cases in respect of all the posts on the recommendation of the Selection Committee.

2. The University reserves the right not to fill up any of the vacancies advertised if the circumstances so warrant.

(Advt. No. 7/ADMN/87-88) **REGISTRAR**

COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH

ADVERTISEMENT No. 5/88

It is proposed to appoint two Scientists 'F' for the Central Institute of Medicinal & Aromatic Plants (CIMAP), Lucknow.

CIMAP undertakes R&D work on medicinal and aromatic plants which includes development of agrotechniques for these plants, development of agro-technology and introduction and acclimatisation of exotic species. The reseach projects of the Institute are of multi-disciplinary nature calling for interplay of agricultural sciences, botany and pharmacognosy, chemistry of natural products as well as chemical engineering.

Job requirements (Post No. 1) : The selected candidates will be expected to provide a high level leadership in R&D in Soil Science and Agronomy with special reference to agronomy of medicinal and aromatic plants. He should be able to identify, plan and coordinate research in the area of Soil Science and Agronomy with special reference to developing, improved and new methods for growing medicinal and aromatic plants under stress conditions on marginal soils, coastal soils, marshy lands, salt and acidic soil conditions, rocky area and other waste land conditions and also work as Chief Coordinator of R&D work at 5 Regional Centres located in different parts of the country. He should be able to develop a strong unit of basic as well as applied research in the area of plant nutrition, soil fertility, weed and water management.

Qualifications : High academic qualifications with first class Master's Degree and Doctor's Degree in Soil Science/Agronomy. At least ten years research experience with proven R&D ability in the area of Soil Science and Agronomy with special reference to agronomy of medicinal and aromatic plants He should be familiar with the use of modern instruments of analysis of soils and plants. He should have proven ability to guide and coordinate agronomic research with a fairly large group of agronomists in various specialities.

Job Requirements (Post No. 2) : The selected candidate will be expected to provide a high level leadership in R&D in the area of Genetics and Plant-Breeding with special reference to medicinal and aromatic plants. He should be equipped with knowledge and skill of modern genetic engineering techniques/plant molecular biology. He will be required to assist the Director in planning and execution of projects in the area of improvement of medicinal and aromatic plants.

Qualifications : High academic qualifications with first class Master's Degree and Doctor's Degree in Botany or Agriculture with specialisation in Genetics and Plant-Breeding. At least ten years research experience with proven R&D ability in the area of Genetics and Plant-Breeding with special reference to medicinal and aromatic plants.

Salary/Conditions of Service : The scale of posts is Rs. 5100-150-5700-200-6300 plus allowances as per Central Government rules. Consultancy subject to an upper limit of Rs. 15,000 per year is permissible which is likely to be revised. This is a contractual appointment initially for a period of six years. The contract is extendable and the incumbent can also be confirmed. Free medical aid and leave travel concession are also permissible for the family as per Central Government rules. Residential accommodation will be provided as soon as the staff quarters are constructed on payment of usual rent.

Age should be preferably below 50 years, relaxable in deserving cases.

A duly constituted screening committee will decide on the number of scientists to be invited to meet the full selection committee for discussion. The decision of the Council in this behalf will be final. Applications from employees working in Government Departments, Public Sector Organizations and Govt. funded Research Agencies will be considered only if forwarded through proper channel and with a clear certificate that the applicant will be relieved within three months of receipt of the appointment order.

Those interested may kindly send in their curriculum vitae in duplicate in the form obtainable from the Joint Secretary (Admn.), Council of Scientific and Industrial Research, Rafi Marg, New Delhi-110 001 on or before **10-6-1988**. Literature about CIMAP will be available on request from this address.

Ministry of Human Resource Development
(Department of Education)

Jawaharlal Nehru Memorial Trust (U.K.) Scholarships 1988-89

Applications are invited on plain paper from Indian nationals for the award of two scholarships offered by the Jawaharlal Nehru Memorial Trust (U.K.) for advanced study/research in any of the following subject fields :

1. Material Science 2. Laser Physics 3. Opto Electronics 4. Electronics Instrumentation 5. Micro Electronics 6. Computer Science 7. Bio-Technology 8. Econometrics 9. Management 10. Mass Communication.

Tenure : The Scholarships are tenable for two years and may be extended by a year, where necessary.

Value (Subject to Revision) : (i) A monthly stipend (currently £ 402) for subsistance and personal expenses (including daily travel). (ii) Additional allowances for books (£. 130), Clothing (£. 141), Arrival (£. 130) and departure expenses (£. 145). (iii) Reimbursement of approved study, travel and project cost. (These will be paid directly to the training institution). *(iv) There is no provision for dependents. The value of the award is adjusted annually for inflation.*

Passage Cost : Cost of passage from India to U.K. and back will be provided by the Government of India.

Minimum Qualifications : (i) Uniformly brilliant academic record, preferably Ph.D. degree, intending to do Doctoral or Post-Doctoral studies in the subject related to the field chosen, or published work of equivalent merit. (ii) Candidates must produce evidence of capacity for intensive scientific investigation/research/specialised work.

Age/Marital Status : Not more than 30 years of age on 1.10.1988 (relaxable by two years in the case of Scheduled Caste/Scheduled Tribe candidates)/Unmarried Single.

Last Date : Application on good plain paper in the prescribed format together with the relevant documents should reach the **Assistant Educational Adviser**, Department of Education, External Scholarship Divisions, E.S. 4 Section, Room No. 517, **'B' Wing, Shastri Bhavan, New Delhi latest by the 29th April, 1988.**

Note : 1. Candidates who have already been abroad for study/research either on a scholarship or on their own, are eligible to apply only if they have been in India, at least for three consecutive years after their return from abroad. Applications of the candidates who are abroad will not be considered. 2. Where grades are mentioned, the candidates must indicate exact percentage of marks, failing which it would not be possible to entertain his application. 3. Candidates should have sufficient knowledge of donor country i.e U.K. as well as of India 4 Employed persons must send their applications through their employers with "NO OBJECTION CERTIFICATE" in time failing which their applications will be considered provisionally and they shall not be interviewed unless the same is brought. 5. Applications in the subject fields other than those specified in the advertisement will not be considered. 6 Candidates who do not possess the requisite qualifications need not apply. 7. Applications sent in advance must be accompanied with the attested copies of the certificates, certificate of age, marks sheets of the qualifying examinations and of all degrees/diplomas/certificates including Postal Order for appropriate value i.e. Rs 5 - for General candidates and Rs. 1.25 for SC/ST candidates. 8. Equivalent foreign degrees are also acceptable in all the subject fields. 9. Papers Books Articles which have already been published may only be indicated in the application form. The material which has not been published, need not be mentioned. 10. Whatever experience etc. is mentioned in the application form has to be supported with documentary evidence. 11. Applications of the candidates belonging to All India Services, will be entertained only when received through their Cadre Controlling Ministries. Advance copies received from them will not be entertained.

Note : Before filling up the application, candidates are advised to go through the instructions carefully.

PROFORMA FOR APPLICATION

A recent Passport Size Photograph should be affixed here.

1. Name of the Scholarships Scheme : Jawaharlal Nehru Memorial Trust (U.K.) Scholarship Scheme 88-89.
2. (a) Subject (b) Sub-subject :
3. Name of the candidate, (in Block Letters), (with full mailing address) :
4. Date of Birth and the State to which the candidate belongs :
5. Whether a member of SC/ST or a tribal or aboriginal community ? If so, give full particulars :
6. Academic record starting from High School Hr. Secondary (Attested/Photostat copies of Certificates to be attached) :

Name of the University/Board Institution	Examinations passed	Year of passing	Division Class with position if any	Percentage of marks obtained	Subjects taken

7. Details of Professional Practical Training and Research Experience, specifying the period and number of papers published, previous employment with name and date of employment, if any.

8. Nature of the present employment (with date of appointment, designation and the name & address of the employer).

9. Names, designations and addresses of three referees who are familiar with the work of the scholar.

N.B. Candidates called for interview will have to bring with them the original comments of all the three referees.

10. Have you been abroad ? If so, give full particulars of the country and the period. Also mention the exact date of return to India.

11. Proposed Programme of Study/research/training, specifying:—

(i) the work at present engaged in : (ii) nature and programme of study research/training desired (iii) future plans/prospects after the proposed studies/research/training, and (iv) how are these related to the technical or economic development of India.

12. Crossed Postal Order of Rs. 5/- (Rs. 1 25 in case of SC/ST candidates) purchased after the date of our advertisement and payable to the Secretary, Ministry of Human Resource Development (Deptt. of Education), New Delhi be attached with application form.

Place : **Date :** **(Signature of the Candidate)**

davp 87/684

CLASSIFIED ADVERTISEMENTS

DEVI AHILYA VISHWAVIDYALAYA, INDORE
UNIVERSITY HOUSE, INDORE-452 001

No. Estt III (1) 88 **Dated : 24 3 1988**

ADVERTISEMENT

Applications in the prescribed forms are invited for the following posts in the University Teaching Departments Administrative Office so as to reach the undersigned on or before **30th April, 1988**

S No.	Department	Post
1	M Sc Computer Science	(a) Professor-3 (b) Reader-3 (c) Lecturer -2
2.	Master of Computer Application (M.C A)	(a) Professor-1 (b) Reader-1 (c) Lecturer -2
3.	Business Management	(a) Professor-3 (b) Reader-5 (c) Lecturer -6
4.	Physical Education	(a) Professor-1 (b) Reader-1 (c) Lecturer -2
5.	Director College Dev. Council	Director -1

2. The scales of pay for the above posts and present total emoluments on initial basic salary in each scale are as follows

Post	Old U G C Scale of Pay (under revision)	Emoluments on Initial Basic Pay
Professor Director	Rs 1500 60-1800-100-2000-125 2-2500 -	Rs 4030 - Approx
Reader	Rs 1200 50-1300-60-1900 -	Rs 3600 - -do-
Lecturer	Rs. 700-40 1100-50-1600 -	Rs 2440 - -do-

3 Application forms together with details of qualifications specialisation etc can be obtained from the University Office on payment of Rs 5 - in person or by sending a Crossed Indian Postal Order of Rs. 10 payable to the Registrar, Devi Ahilya Vishwavidyalaya Indore

C P Modi
REGISTRAR (EXAMS)

NATIONAL INSTITUTE OF HYDROLOGY
JAL VIGYAN BHAWAN
ROORKEE

Advertisement No. 5 88-NIH (Admn)

Dated . March 29, 1988

Applications are invited for the following posts in National Institute of Hydrology (A Govt. of India Society), Roorkee from Indian Nationals satisfying qualifications and experience laid down therefor :

1. **Scientist-C** . 6 Posts in the following area :

(a) Water Resources System/Surface Water Hydrology/Drought Studies —3 Posts

(b) Ground Water Hydrology—1 Post

(c) Hydrological Investigations. —1 Post

(d) Atmospheric Land Surface Modelling. —1 Post

Scale of Pay : Rs. 3000-100-3500-125-4500.

Age : Below 40 years

Qualifications I. : For Areas (a)

Water Resources System/Surface Water Hydrology Drought Studies

A Bachelor's degree in Civil Engg with minimum of 60% marks or 7 0 10 0 CPI or equivalent

OR

Master's degree with specialisation in Water Resources/Hydraulics Engg Hydrology, with minimum of 60% marks or 7 0 10 0 CPI or equivalent

For Areas (b)

Ground Water Hydrology

A Bachelor's degree in Civil Engg with minimum of 60% marks or 7 0 10.0 CPI or equivalent

OR

Master's degree with specialisation in Water Resources Hydraulics Engg Hydrology with minimum of 60% marks or 7.0 10 0 CPI or equivalent

OR

Master's degree in Science in Geology Geophysics Earth Science with minimum of 60% marks or 7 0 10,0 CPI or equivalent

For Areas (c)

Hydrological Investigations

Master's degree in Physics Chemistry with minimum of 60 marks or 7 0 10 0 CPI or equivalent with specialisation in Nuclear Physics Nuclear Chemistry

For Areas (d)

Atmospheric Land Surface Modelling

A Master's degree in Science with specialisation in Physics Meteorology with minimum of 60% marks or 7 0 10 0 CPI or equivalent

II 5 year's experience of Design Teaching research in Institutions dealing with Wather Resources area

Desirable

Ph.D in Science Engineering

2. Sr Research Assistant (Programming) : 1 Post

Scale of Pay , Rs 1640-60-2600-EB-75-2900

Age · Below 30 years.

Qualifications

Essential

A Bachelor's degree in Electrical, Electronics.

OR

A Master's degree in Science in Physics/Mathematics/Electronics

OR

A Bachelor's degree in Science with Mathematics and 5 years relevant experience.

Desirable

Experience of Computer Programming.

3. **Sr Computer Operator** : 1 Post

Scale of Pay : Rs. 1400-40-1600-50-2300-EB-60-2600.

Age Below 30 years.

Qualifications · A Master's degree in Science in Physics/Electronics

OR

A diploma of 3 years duration in Electrical/Electronics with 3 years relevant experience.

OR

A Bachelor's degree in Science with Physics and Chemistry and 4 years relevant experience

4 **Personal Assistant** 6 Posts (Reserved 2 post for SC & 1 post for ST candidates)

Scale of Pay · Rs 1400-40-1600-50-2300-EB-60-2600

Age : Below 30 years

Qualifications . Degrre of a recognised University or equivalent with a minimum speed of 100 w p m. in Shorthand and 40 w p.m. in typewriting (English).

2. Minimum 3 years experience as Junior Stenographer in a Govt./Public Sector Undertaking/Autonomous Body.

Desirable : Experience in one of the following :

(a) Establishment & Administrative matters.

(b) Work connected with meeting conferences & coordination.

(c) Noting, drafting & case work for an analytical approach to a problem of a case dealing with rules and regulations.

5 **Mechanic Grade-II** : 1 Post.

Scale of Pay · Rs. 975-25-1150-EB-30-1540.

Age : Below 25 years.

Qualifications : 1. Passed Matriculation exam. with Science background.

2. Passed ITI certificate examination of 2 years duration.

OR

Passed apprenticeship course exam. of 2 years duration.

The above mentioned posts carry usual allowances as admissible under the Central Government Rules. Age will be relaxable for persons already in Service in the Institute and other Government/ Semi-Govt / Autonomous organisations as well as candidates belonging to SC/ST community, retrenched employees of Defence services and physically handicapped persons, as per rules of the Government of India.

Age will be determined as on 15-5-1988.

Persons already employed in Govt./Semi-Govt./Autonomous Bodies should apply through proper channel. Application not forwarded through proper channel may not be considered.

Candidates applying for more than one post should use separate application form for each post and remit fees separately for each post.

Application forms may be obtained by 30-4-1988 from Chief Administrative Officer, National Institute of Hydrology, Jal Vigyan Bhawan, Roorkee-247667 (UP) by sending a self-addressed envelope of the size 12 x 28 cms Application forms duly completed in duplicate with copies of all testimonials alongwith an application fee in the form of Indian Postal Orders of Rs 8 - for Sl No 1 & 2, and Rs. 3 - for Sl No 3 to 5. (SC ST candidates are exempted from payment of fee) payable to the National Institute of Hydrology at the Roorkee University Post Office should reach the Chief Administrative Officer, National Institute of Hydrology, Jal Vigyan Bhawan, Roorkee-247667 (UP) on or before **15-5-1988.**

Job Location . Anywhere in India

NORTH EASTERN HILL UNIVERSITY

SHILLONG

Advt. No: F 1-44 Estt-II/88 211

Dated. 18th March, 1988.

Applications are invited (on prescribed form) for the following Teaching and Non-Teaching posts in different Departments/Centres of the North-Eastern Hill University in its Campuses at Shillong(S), Kohima(K), Medzphema(M) in Nagaland, Aizawl(A) and Pachhunga University College(P) at Aizawl, Mizoram, so as to reach the REGISTRAR, North-Eastern Hill University, Shillong-793001, alongwith a crossed Indian Postal Order of Rs. 10/- (not applicable for SC/ST candi dates) payable to the North-Eastern Hill University, Shillong by **30th April, 1988.**

The specialisations are indicated at the end of each section :

1. Deptt. of Mathematics : (S) Professor- 2: Applied Mathematics/Mathematical Physics/Operational Research/ Computer Science/Numerical Analysis; Reader- 1: Pure Mathematics; Lecturer- 2 : Open.

2 Deptt. of Chemistry: (S) Lecturer -1 Desirable-Inorganic Chemistry.

3. Computer Science: (S) Professor/ Reader- 1.

4 Deptt. of Geography: (S) Reader- 3. Physical Economic Geography, Social Geography including Cultural/Hyman/ Population Geography; Lecturer- 1: Open.

5. Deptt. of Geology: (K) Professor/ Reader- 1: Open.

6. Deptt of Forestry: (A) Professor/ Reader- 1. Open.

7. Deptt. of Political Science : (S) Professor- 1: Open.

8 Deptt. of Economics: (S) Professor- 1 Public Economics.

9. Deptt. of Ancient Indian History & Archaeology (K) Professor/Reader- 1: Open

10. Deptt. of Sociology: (S) Lecturer - 1: Open.

11 Deptt. of Philosophy: (S) Professor- 1: Experience in Philosophical issues of Social & Cultural Change.

12. Deptt. of Psychology: (A) Professor- 1: Open.

13. Deptt. of Public Administration: (A) Reader- 1: Open.

14. Deptt. of Commerce: (K) Professor- 1: Open ; Professor/Reader- 2 : Open

15. Deptt. of Management Studies: (S)/(K) Professor- 3. Open.

16. Deptt. of Social Work: (S)/(A) Professor/Reader- 3· Open.

17. Home Science. (S) Professor/ Reader- 1: Food Nutrition & Child Development Clothing & Textile.

18 Deptt of Khasi: (S) Lecturer- 1: Open.

19 Institute of Self-Organising System & Bio-Physics: (S) Professor/Reader- 1. General. Open Post; preferably experimental work in photon counting and millimeter wave techniques for spectroscopy for vector and scaler measurements; Lecturer- 2: Open.

"The Institute is an inter-disciplinary research centre of the University with its M.Phil/Ph.D. programme in Self Organising System open to students from various faculties. The major equipments available in the Institute for experimental research are Photo Acoustic Spectrometer OAS 400, Network Analyser HP 8510, Low Level Photon Acquisition System and Photon Counting Image Acquisition System (Hamamatsu). Persons experienced and/or interested with the research programme of the Institute will be given preference".

20. Deptt. of English: (S) Lecturer-1: Open. (K) Lecturer- 1: Open.

21. Deptt. of Education: (S) Professor- 1: Teacher Education/Social Studies Teaching/Curriculum & Evaluation/Higher Education/Population Education.

22. School of Agricultural Sciences & Rural Development: (M) Nagaland.

(a) Animal Science : Professor- 1: Specialisation in any branch of Animal Science preferably Animal production, Breeding/Physiology/Nutrition.

(b) Rural Dev. & Planning: Professor 1, Reader- 1, Degree in Agricultural Economics/Agriculture/Economics Geography/Sociology with specialisation in Regional Planning/Micro-Planning.

(c) Agricultural Extension; Reader-1, Lecturer- 1: Specialisation in any branch of Agricultural Extension Education.

(d) Soil Conservation: Reader- 1, Soil Water Conservation/Soil Water Conservation Engineering Soil Conservation.

(e) Mathematics: Reader- 1, Lecturer- 1.

(f) Statistics: Lecturer- 1, Specialisation in any branch of Statistics/Agricultural Statistics with specialisation in design of experiment/sampling theory.

(g) Agril. Engineering : Reader- 1: Specialisation in any branch of Agricultural Engineering preferably soil & water conservation on engineering/Farm machinery.

(h) Animal Husbandry : Reader-1.

(i) Horticulture: Lecturer- 1. Pomology & Olericulture.

(j) English: Reader- 1.

23. Pachhung University College: (A) Mizoram. English: Lecturer- 1; Economics: Lecturer- 1; Botany: Lecturer—2; Psychology: Lecturer- 2: Mathematics: Lecturer- 1.

24. Director, College Development Council (S)- 1. The post-is available upto March, 1990 for the time being. Pay Scale : Rs. 1500-60-1800-100-2000-125/2-2500/- (pre-revised). Qualifications : Five years experience as a Reader or Principal of a degree college.

25. Director, Academic Staff College: (S) Pay Scale : Rs. 4500-150-5700-200-7300/- Qualifications: Qualifications and service conditions are the same as prescribed for a Professor.

26. Principal, University Law College: (A)- 1. Pay Scale : Rs. 4500-150-5700-200-7300/- Qualifications : Master's degree in Law teaching experience for a minimum period of 5 years in Law.

27. Sr. Scientific Officer (Regional Sophisticated Instrumentation Centre; (S)- 1. Pay Scale : Rs. 1200-50-1300-60-1900/- (pre-revised). Essential qualifications: (i) M.Sc./B.E. Electronics or equivalent, preferably with solid state experimental physics/electronics instrumentation and sound background in handling and maintenance pf. sophisticated analytical instruments. (ii) Five years experience in maintenance installation/service of sophisticated instruments preferably electron microscope, mass spectrometer/spectre-photometer

28. Executive Engineer: (S)- 1. Pay Scale : Rs. 1200-50-1300-60-1900 - (pre-revised). Essential qnalifications: Degree in B.E./B.Tech B.Sc. Engineering in Civil Engineering from a recognised University Institutian or Section 'A' and 'B' Examination of the Institute of Engineers (India) with an experience of at least 10 to 15 years in Asstt. Engineer or as SDO (PWD) ano 5 to 7 years as Executive Engineer in a Govt. Department. Preference will be given to candidates having sufficient experience in the line for more than 5 years as Executive Engineer having Administrative capacity.

29. Asstt. Librarian- 3 (S), 1(A), 2(P). Pay Scale : Rs. 700-40-1100-50-1600/- (pre-revised). Essential qualifications: Master's degree in Library Science Information Science, Documentation or an equivalent professional degree with at least fifty five percent marks or its equivalent grade plus a consistently good academic record, OR Master's degree in the Arts/Science/Commerce or equivalent degree with at least 55% marks or its equivalent grade and a Bachelor's degree in Library Science/Information Science/Documentation or an equivalent professional degree with at least 55% marks or its equivalent grade plus a consistently good academic record.

Scale of Pay (Revised)

Professor — Rs. 4500-150-5700-200-7300/-
Reader — Rs. 3700-5700/-
Lecturer — Rs. 2200-75-2300-100-4000/-

Essential Qualifications

1. **Professor** : An outstanding scholar with established reputation and significant contribution to the subject : OR (i) Doctorate in the subject or equivalent; (ii) Ten years teaching experience of Post Graduate classes or 15 years teaching experience including 5 years of P.G. Classes or 10 years Post-Doctoral Research experience and guidance.

2. **Reader:** (i) Doctorate in the subject or equivalent; (ii) 5 years teaching experience with at least 3 years of teaching P.G. classes or 7 years including 5 years of Honours classes or 5 years of Post Doctoral Research.

3. **Lecturer:** (i) Consistently good academic record with at least 55% marks in the Master's degree in the relevant subject or its equivalent grade. (ii) Preference will be given to candidates who have research degree like M.Phil./Ph D.

Note : Candidates already in service should send their applications through proper channel. An advance copy may, however, be sent direct.

Applications received on plain paper, applications not in conformity with the requirement as specified in the application form and applications received after the due date will not be entertained and no correspondence will be entertained in this regard.

A person applying for more than one post should send a separate application for each post.

In addition to the pay and allowances, the University also provides a free and furnished accommodation to teachers or fixed house rent allowance in lieu thereof.

The University reserves the right to negotiate with suitable persons who may not have applied formally. The University also reserves the right to fill up or not to fill up the post or to call only selected candidates for interview. The number of posts may vary.

Application forms can be obtained from the Section Officer, Establishment-II Branch, North Eastern Hill University, Shillong-793001 personally on payment of an Indian Postal Order of Rs. 2 - or by making a written request to him / accompanied by self-addressed stamped envelope of 23 x 10 cm and a Indian Postal Order for Rs. 2/- drawn in favour of North Eastern Hill University, Shillong-793001.

Candidates who have already applied for any of the above teaching posts in response to our earlier advertisement of July, 1987, need not apply again They may intimate their consent to be considered for the post.

D C Pant
REGISTRAR

BIDHAN CHANDRA KRISHI VISWAVIDYALAYA

P O KRISHI VISWAVIDYALAYA
MOHANPUR, DISTRICT NADIA,
WEST BENGAL

Advertisement No. PER(T) 1 88

Applications on prescribed forms are invited for filling up the following teaching research posts in the scale mentioned below with the benefit of D A and other allowances as admissible under the rules of the Viswavidyalaya

Group—A (1) Professor of Veterinary Clinical Medicine—1 Post (2) Lecturer in Meat Technology—1 Post (3) Lecturer in Agril Extension (Research) under Regional Research Station at Cooch behar—1 Post

Group—B (4) Reader (Research) one each for (i) In any Branch of Agriculture (ii) Agronomy, (iii) Plant Pathology (iv) Plant Breeding (v) Soil Science (vi) Agril Engineering, (vii) Soil & Water Conservation (viii) Agril Entomology (ix) Horticulture (x) Agril Statistics (xi) Agril Economics and (xii) Animal Production and Management 12 Posts Post at (i) is for Sekhampur Centre and the rest are for Jhargram Centre (5) Lecturer (Research) One each for (i) Agronomy, (ii) Plant Breeding, (ii) Soil Science, (iv) Agril Extension, (v) Animal Nutrition, (vi) Agronomy (vii) Plant Breeding (viii Horticulture, (ix) Agril. Extension (x) Plant Pathology (xi) Agril Entomology—11 Posts. Posts at (i) to (v) are for Jhargram Centre and (vi) to (xi) are for Sekhampur Centre

Group—C (6) Lecturer in Entomology (Acarology) (Research) under AICRP on Agril Acarology (1 post temporary)—1 Post

Posts at Group—B are under National Agricultural Research Project

Scale of Pay. For Professor—Rs 1500-60-1800-100-2000-125/2-2500/- **For Reader (Research)** Rs. 1200-50-1300-60-1900/- For Lecturer/Lecturer **(Research)** Rs 700-40-1100-50-1600/-

Age Limit as on 2 5 1988 For Professor Below 55 years For Reader **(Research)** Below 45 years For Lecturer/Lecturer (Research) Below 35 years

Qualifications for Professors Post ·

Essential (i) A 1st or high 2nd Class Master's Degree in the relevant subject or an equivalent degree of a foreign University following a good B V Sc & A H Degree (ii) 10 years' experience of teaching and or research in the relevant subject of which 5 years must be in the post of READER or equivalent position (iii) A Doctorate Degree in the relevant subject or equivalent published work with distinguished record of research of high standard (iv) Experience of successfully guiding research at Doctorate level OR (i) An eminent scholar with published work of high quality actively engaged in research (ii) 10 years experience of teaching and or research (iii) Experience of successfully guiding research at Doctorate level

Qualifications for Reader Research Posts Essential (i) A 1st or high 2nd Class Master s Degree in relevant subject or an equivalent degree of a foreign University following a good B Sc (Ag) B V Sc. & A H where necessary (ii) 5 Years' experience in teaching and or research of which 3 years must be as Lecturer or in a post of equivalent rank (iii) A Doctorate Degree in the relevant subject or equivalent published works with a good record of research

Qualifications for the Posts of Lecturer in Meat Technology Essential (i) Consistently good academic record with 1st or high 2nd Class Master s Degree in Meat Science Meat Hygiene Meat Technology Animal Products Technology or equivalent degree of a foreign University, (ii) A Doctorate Degree in the relevant subject or equivalent published papers with a good record of research

N B Preference shall be be given to candidate/s having Doctorate Degree or published work of equal standard, if available.

Desirable : (i) Some teaching/research experience in an Institution of repute in the subject concerned, (ii) A good knowledge of Canning Technology as a means of preservations

Qualifications for Lecturer in Agril Extension (Research) Essential (i) A consistently good academic record with 1st or high 2nd Class Master's Degree in the relevant subject or an equivalent degree of a foreign University following good B Sc (Ag) degree (ii) Same as Lecturer's Qualifications above.

Qualifications for the Post of Lecturer in Entomology (Acarology) (Research) : Essential (i) A consistently good academic record with 1st or high 2nd Class Master's Degree in Agril Entomology with Specialisation in Acarology or an equivalent degree of a foreign University following a good B Sc (Ag) degree (ii) Same as Lecturer s Qualifications above

Desirable Ph D in relevant field research work of repute as evidenced by published papers in acarology

Experience At least two years research experience in the field.

N B If a candidate possessing a Doctorate Degree or equivalent research work is not available or is not considered suitable for Lecturer Post, the person possessing consistently good academic record may be considered for appointment, on the conditions that he she will have to attain a doctorate degree or show evidence of research work of equivalent high standard within 8 (eight) years of his her appointment failing which he she will not be eligible to earn future increments till he she fulfils all these requirements

B Sc (Ag) is not essential for inservice candidates of the Viswavidyalaya.

Internal candidates of B C K V who have rendered services in the posts associated with teaching research of the Viswavidyalaya for not less than 15 years will be eligible Those who have persued their studies by enjoying study leave from this Viswavidyalaya are only entitled for this relaxation

Age limit may be relaxable on the recommendations of Selection Committee in the case of candidate/s otherwise qualified. Higher pay in the scale may be granted as per Rules of the Viswavidyalaya on the basis of qualifications, experiences and present emoluments.

The Viswavidyalaya reserves the right not to fill up the advertised post/s.

Applications must be submitted in the prescribed proforma obtainable from the Office of the undersigned, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal by remitting CROSSED INDIAN POSTAL ORDER for Rs. 8-00 (Eight) in favour of the Bidhan Chandra Krishi Viswavidyalaya between 11.00 a.m. and 3.00 p.m. on weekdays.

Application form may also be obtained by post by sending self-addressed envelope stamped for Rs. 0.70 (seventy paisa) and POSTAL ORDER FOR Rs. 8.00 (eight).

Closing Date : Issue of application form : 29th April 1988. Receipt of completed application form : 2 5.1988.

Applications completed in all respect should be submitted to the undersigned, B.C.K.V., Mohanpur by **2 5.1988.** in an envelope superscribing the post applied for.

Person/s already in employment should apply through proper channel.

Candidates called for interview will have to appear at their own cost.

REGISTRAR

UNIVERSITY OF CALCUTTA

Senate House, Calcutta-73.

CORRIGENDUM

Advertisement No. EST 1A/88.

Regarding Notification No Est 1/88 **dated 8th March, 1988**, the three posts **of Professors in the New Cells of Biophysics, Molecular Biology** and **Microbiology and Genetics** in **Group—B Sl. No. 13**, be read as 'in the Departments of Biophysics, Molecular Biology and Genetics' in stead of the Cells.

S.N. Ghosh
REGISTRAR

ANDHRA PRADSH AGRICULTURAL UNIVERSITY

ADMINISTRATIVE OFFICE :
RAJENDRANAGAR
HYDERABAD—500030

Advertisement No 2/RC/88
Dated : 28-3-88

1. Applications in the prescribed form together with a Registration fee of Rs. 10/- are invited for the undermentioned posts in Andhra Pradesh Agricultural University, Rajendranagar, so as to reach the Registrar, A.P. Agricultural University, Administrative Office, Rajendranagar, Hyderabad-500030 on or before 25-4-1988.

(i) **Dean, Faculty of Home Science**
(ii) **Dean Faculty of Veterinary Science**

2. **Existing Scale of Pay** (U G.C.) : Rs. 1500-60-1800-100-2000-125 2-2500 & Special Pay of Rs. 250/- in addition to usual allowances admissible as per University rules.

3. **Qualifications : (I) Dean, Faculty of Home Science**

Essential

(a) Ph.D , or equivalent degree in any branch of Home Science.

(b) A minimum of twenty years of experience in teaching research/extension in Home Science, out of which, atleast five years should be as Professor or equivalent rank.

(c) Significant professional achievements in her field of specialisation/activity.

Desirable

(a) A Bachelor's degree in Home Science.

(b) Experience of teaching Undergraduate and Post-graduate students in the course-credit system.

(c) Knowledge and experience of organising and administering educational programmes.

(iii) Dean, Faculty of Veterinary Science

Essential

(a) A Bachelor's degree in Veterinary Science.

(b) **Ph.D.** or **equivalent degree** in any branch of Veterinary Science.

(c) A minimum of twenty years of experience in teaching/research/extension in Veterinary out of which at least seven years should be as Professor/Senior Scientist or equivalent rank.

(d) Significant professional achievements in his field of specialisation/activity.

Desirable

(a) Experience of teaching Undergraduate and Post-graduate students in the course-credit system.

(b) Knowledge and experience of organising and administering educational programmes.

Note : The period of experience prescribed for both the posts will be reckoned as on the last date fixed for the receipt of applications.

4. The term of appointment of both the posts shall be three years.

5. Applicants other than those in the service of Andhra Pradesh Agricultural University should send the applications through their employers so as to reach the University on or before the last date.

Note : The inservice teachers of A.P.A.U. may send applications direct to the Registrar.

6. Application forms can be had from the Registrar, Andhra Pradesh Agricultural University, Administrative Office, Rajendranagar, Hyderabad-500030 on remitting Rs. 10 - in person or through a crossed D.D. drawn from any nationalised Bank in favour of the Comptroller, Andhra Pradesh Agricultural University, Rajendranagar drawn on State Bank of Hyderabad, Rajendranagar Branch for obtaining it by post. A self-addressed and stamped Rs. 2-50 cover of the size of 35 cm × 15 cm should be sent with a requisition for application form.

Applicants, when called, should appear before the Selection Committee for interview at their own cost.

K.M. Azam
REGISTRAR

MANIPUR UNIVERSITY

CANCHIPUR : IMPHAL

Advertisement No. 4/88

Dated the 25th March, 1988

Applications are invited for one post of Deputy Registrar (Reserved for SC/ST candidates) in the scale of pay of Rs. 3000-100-3500-125-5000 - p.m. plus admissible allowances.

Essential Qualifications

(i) At least a Bachelor's Degree from any statutory Indian or Foreign University, and good academic background. (ii) At least 10 years' administrative experience of which not less than 5 years' should be in a Supervisory capacity, not below the rank of Assistant Registrar or equivalent post in a University or a well-established educational institution. For departmental candidates relaxation of 2 years in experience may be given.

Desirable : (a) Post-graduate qualification; (b) Adequate experience in handling agenda, minutes and procedure of meetings development work including formulation and implementation of development project programmes, recruitment and establishment matters.

OR

(i) 8 years' experience as Lecturer in a College or a University with experience in educational administration. (ii) Comparable qualification in research establishments and other institutions of higher education.

Candidates invited for interview will be given second class railway fare by the shortest route on production of travel documents.

Applications on plain paper (in duplicate) along with attested copies of Certificates in support of qualifications and experience showing candidate's name, date of birth, mailing & permanent address, father's name, academic and professional attainments, administrative teaching/research experience, field of specialization, publications (to be enclosed with reprints), Seminars Conferences attended, details of visits to foreign countries and assessment reports from at least two persons well acquainted with the candidate's professional work should reach the Registrar, Manipur University, Imphal-795003 on or before the 25th April, 1988.

Applications received late or incomplete in any respect may not be entertained. Persons already in service must apply through their employers so as to reach this office on or before the last date fixed. No candidate will be considered for appointment unless he/she produces a 'No Objection Certificate' from his/her employer at the time of interview.

Th. Joychandra Singh
REGISTRAR

INDIAN SCHOOL OF MINES

DHANBAD-826004

No. 614001/88 **Dated : 5-3-1988**

ADMISSION NOTICE–M. TECH. DISM. PROGRAMMES

Applications are invited for admission to the following Post-Graduate programmes commencing on June 20, 1988 at ISM, a deemed University under the UGC Act.

A. M. TECH DISM IN ENGINEERING DISCIPLINES

M Tech. programmes in engineering subjects at ISM, in common with other Universities, are of 3 semester duration. A unique feature at ISM, however, is the award of a postgraduate DIPLOMA OF INDIAN SCHOOL OF MINES (DISM) on completion of the first two semesters. The third semester (for project work) leading to award of M. Tech can be pursued either in the institution or on job at respective places of work of the candidates.

Discipline	Eligibility Qualification : B. Tech. or equivalent degree in
(1) Drilling Engineering. (6 seats)	—Mech/Prod/Min Engg. or Mining Machinery.
(2) Fuel Engineering. (6 seats)	—Fuel Chem/Met/Mech Min Engg.
(3) Maintenance Engg. & Tribology (6 seats)	—Mech/Prod Min Engg. or Mining Machinery.
(4) Mineral Engineering. (15 seats)	—Mech Chem/Met/Min. Engg. OR M.Sc. in Mineral processing or equivalent M.Sc. Applied Geology or equivalent with mathematics at B.Sc. level.
(5) Mining Engineering (6 seats) with specialisation in (1) Mine Planning & Design. (2) Rock Mechanics. (3) Mine Environment.	—Mining Engg.
(6) (*) Opencast Mining (10 seats)	—(A) Min Engg., Open Cast Mining or Mining Machinery. OR —(B) Civil Elec/Mech Engg/with at least one year approved experience in opencast mines.

(*) For OCM programme, there will be an additional bridge semester for candidates with qualifications in Civil Elec/Mech Engg. Graduates of Mining Engineering, Opencast Mining and Mining Machinery may have to undergo some training in Open Cast mines during this period, if required. One year's experience in open cast mines will be necessary for all applicants other than those with Min. Engg. Open Cast Mining & Min. Mech. background.

(7) (**) Longwall Mine Mechanisation—Mech/Elec/Min Mach/Mining.
(15 seats).

(**) Fresh graduates will have to undergo a pre semester make up course before being admitted to regular 3 semester M. Tech. course.

(8) Industrial Engg. and Management (15 seats)	—Any branch of Engineering with at least six months experience in industry.
(9) (***) Petroleum Engg.	—Chemical Engg/Mechanical Engg/Petroleum Engg.

(***) The candidates with B. Tech. degree in Chemical Engg. and Mechanical Engg. shall have to undergo a make-up semester course before being admitted to regular 3-semester M, Tech, course.

(B) M. TECH. IN EARTH SCIENCE DISCIPLINES

M. Tech. programmes in Earth Science disciplines at ISM are of 2-semester duration. There are six seats in each programme.

Discipline	Eligibility Qualification
(1) Geophysical Instrumentation & Techniques.	—M. Sc. Tech, or equivalent in Applied Geophysics.
(2) Mining Geophysics	—M. Sc. Tech. or equivalent in Applied Geophysics.
(3) Mineral Exploration	—(a) M. Sc. Tech, or equivalent degree in Applied Geology. OR (b) M. Sc. degree in Geology with two years field experience.
(4) Engineering Geology	—(a) and (b) as above OR B. Tech. or equivalent degree in Civil Engineering.
(5) Petroleum Exploration	—M. Sc. Tech. or equivalent degree in App. Geology/App. Geophysics.

NOTE : Candidates applying for programme B (3) or (4) should also have passed in Physics or Mathematics at the graduate level.

2. Admission to M. Tech. Programmes :

Admissions, to above programmes (A & B) shall be made from amongst those candidates who have passed GATE examination with valid scores.

3. General Information

3.1 15% of seats are reserved for Scheduled Caste and 7½% for Scheduled Tribe candidates, if available; otherwise they will be treated as unreserved.

3.2 Other things being equal, preference shall be given to sponsored candidates, sponsorship in this context meaning retention of lien on post and grant of suitable allowance by the concerned organisation. Applications of these candidates should carry endorsement to this effect from the employer.

3.3 Candidates called for appearing in the Viva-Voce (likely to be conducted in the 1st week of June 1988 at ISM, Dhanbad) will have to do so at their own cost. TA/DA is not admissible.

3.4 **Scholarship** : Non-sponsored candidates admitted to the above programmes will be eligible for a scholarship of Rs. 1000/- p.m. for a period not exceeding the duration of the programme.

3.5 Courses where the number of students admitted falls down below four may not be run.

4. **How to apply** : Applications on prescribed forms should reach the undersigned, by **30th April, 1988** at the latest. The forms are obtainable by sending a crossed postal order for a sum of Rs. Ten only (made payable to the Registrar, Indian School of Mines, Dhanbad-826004 at ISM Post Office, Dhanbad) along with a self-addressed unstamped envelope of size 23 × 10 cm. The envelopes containing request for form must be superscribed "Request for Admission Form".

REGISTRAR

SOUTH GUJARAT UNIVERSITY
SURAT

COMPUTER CENTRE

Applications are invited in prescribed form (in eight copies) for the following teaching posts at the Computer Centre of the University :

(1) One Reader in Computer Science : Ph.D./M.Tech. in Computer Science or Ph.D. in Mathematics/Physics/Statistics with additional qualification of P.G. level in Computer Science applications, with five years work experience.

(2) Two Lecturers in Computer Science : Ph.D. or P.G. Degree in Computer Science/Computer Application or Master's Degree in Mathematics/Physics/Statistics with P.G. Diploma in Computer Science/Computer Application of a University or deemed university.

Note : The post of Lecturers are reserved for Scheduled Caste/Tribe/Other Backward Class (Baxi Panch) of Gujarat State and only the candidates belonging to these classes need apply.

Pay Scale for the above Posts are as under :

(1) Reader : Rs. 1200-50-1300-60-1600-Assessment-60-1900.

(2) Lecturer : Rs. 700-40-1100-50-1300-Assessment-50-1600.

In addition to pay, the permanent teachers of the University Departments are entitled to draw Dearness Allowances, House Rent Allowance and other benefits like Pension-cum-Gratuity, Leave Travel Concession and Medical benefits.

Candidates belonging to Scheduled Castes/Scheduled Tribe and Backward Class should clearly indicate in their application the caste to which they belong and attach necessary certificate alongwith their applications.

Information about qualifications and special field in which the appointment on each post is to be made, will be supplied with prescribed application forms which can be had from the undersigned on payment of Rs. 7.00 in cash or by Postal Order alongwith self-addressed envelope of 22 cm x 13 cm. size with postal stamps worth Rs. 3.10 ps. affixed thereon. Canvassing in any form will disqualify the candidate.

The last date for receipt of application is 25-4 1988.

G.A. Desai
REGISTRAR

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